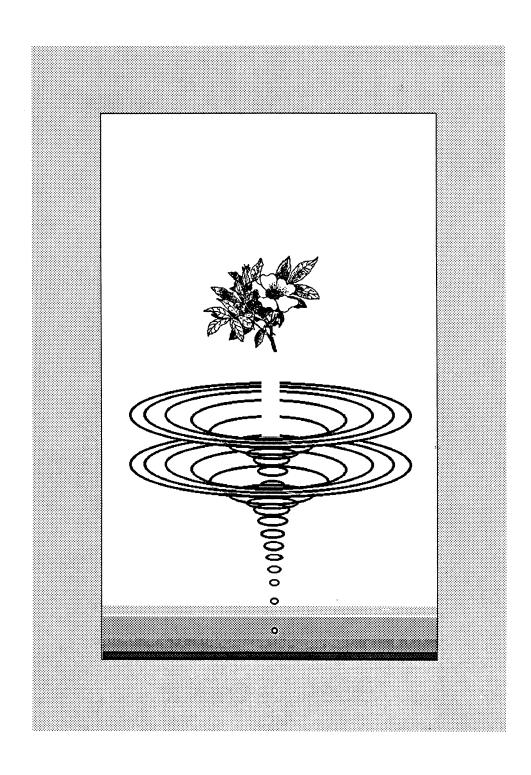
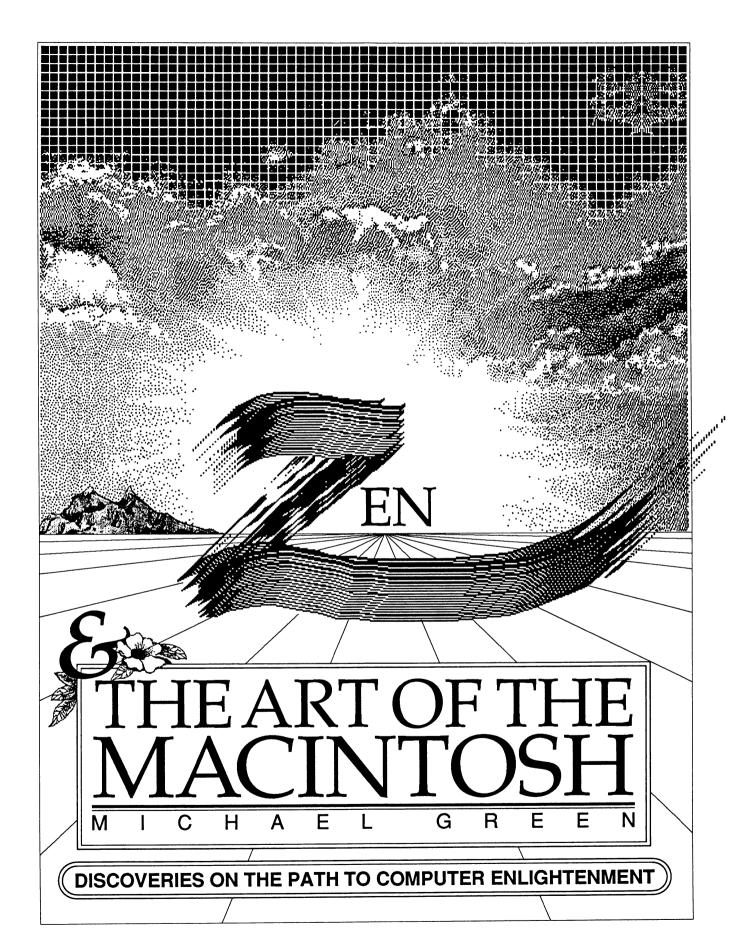


This book was written, edited, designed, illustrated, typeset, laid out, and pasted-up entirely on a Macintosh computer.





RUNNING PRESS PHILADELPHIA, PENNSYLVANIA



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For all those who have gone

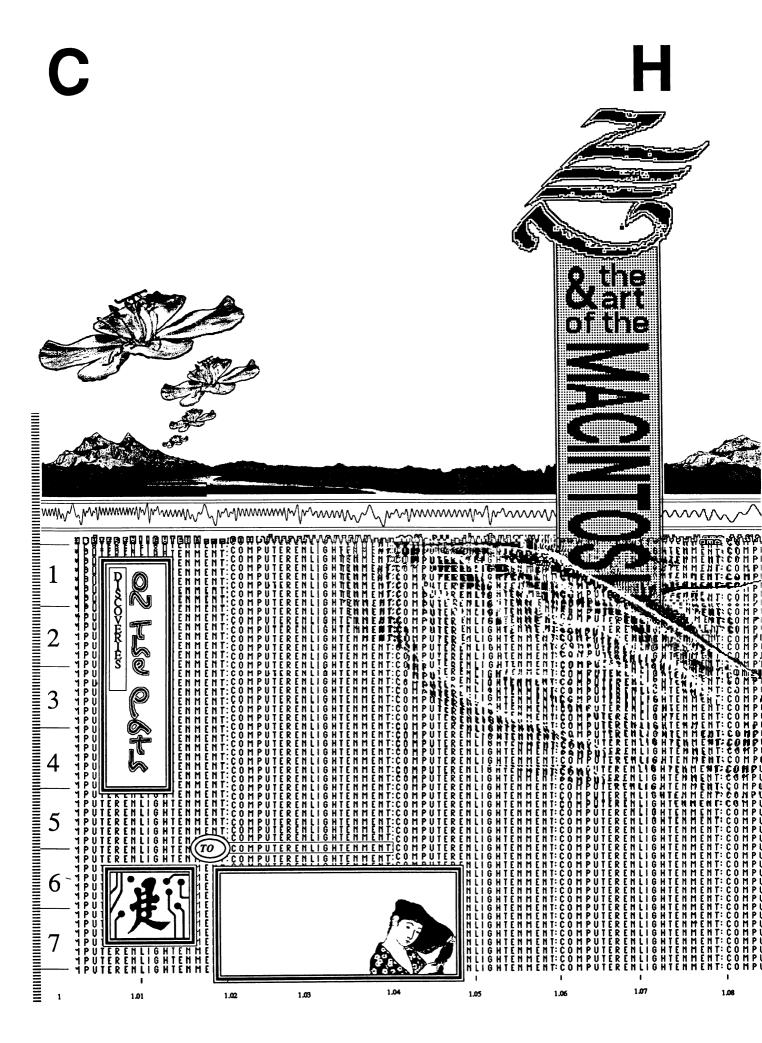
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gone beyond

gone beyond going...

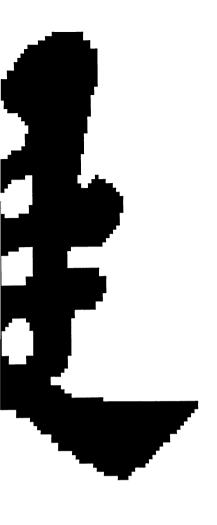


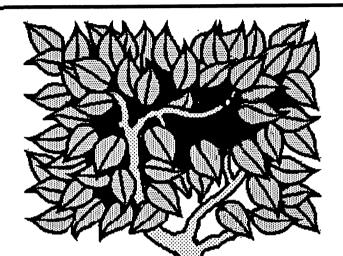




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**THANKS** 

**WHO** 

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**AND** 

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TO YOU

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**SEED** 

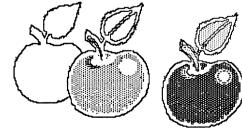
**TENDED** 

TREE...

A book is like a living thing; it grows according to its own inner laws. This one grew slowly. My gratitude to Manny Levin and Virginia Conway; their patience and confidence was the nourishment that brought it to flower and then to fruit. And to my wife Sally for her perfect insights, to #1 son Kabir for his perfect interruptions, and to His Holiness who was The Opener.

**是**是是是是

HERE IS THE FRUIT.





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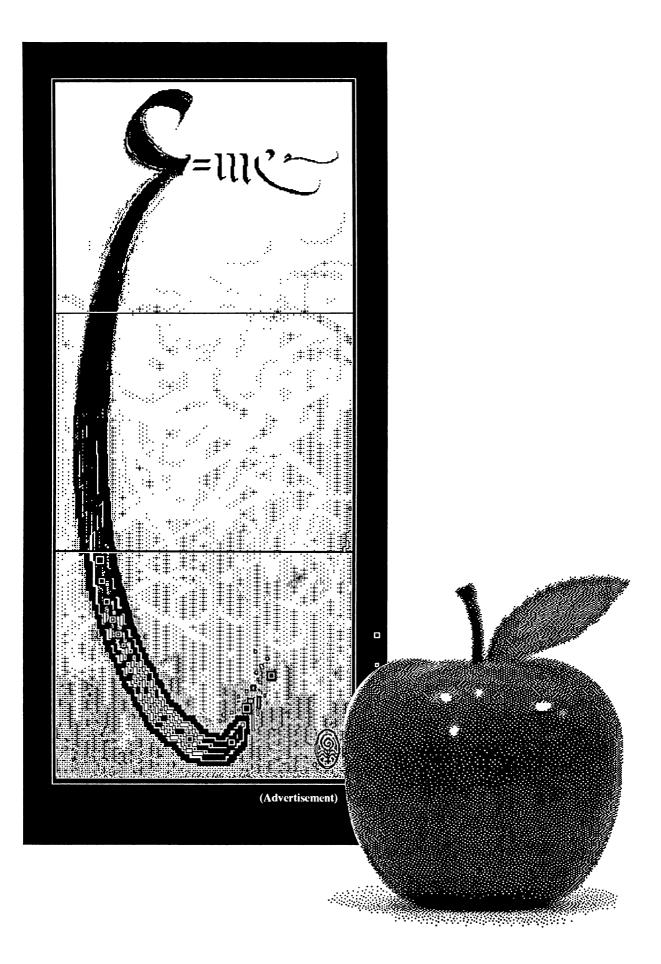
"Basically

"Basicall

-Marc Chagall

What we are trying to see is What is looking!

—Wei Wu Wei.



#### Introduction

## 66<sub>NEAT!</sub>99

IT HAS TO BE THE UNIVERSAL RESPONSE TO THIS machine. I first heard it in the Computer Shack of the U of P where college kids were gathered around a new demo Mac. Two years later the Mac still evokes the same universal word of admiration—from six year olds, or from starchy corporate programmers. Neat!

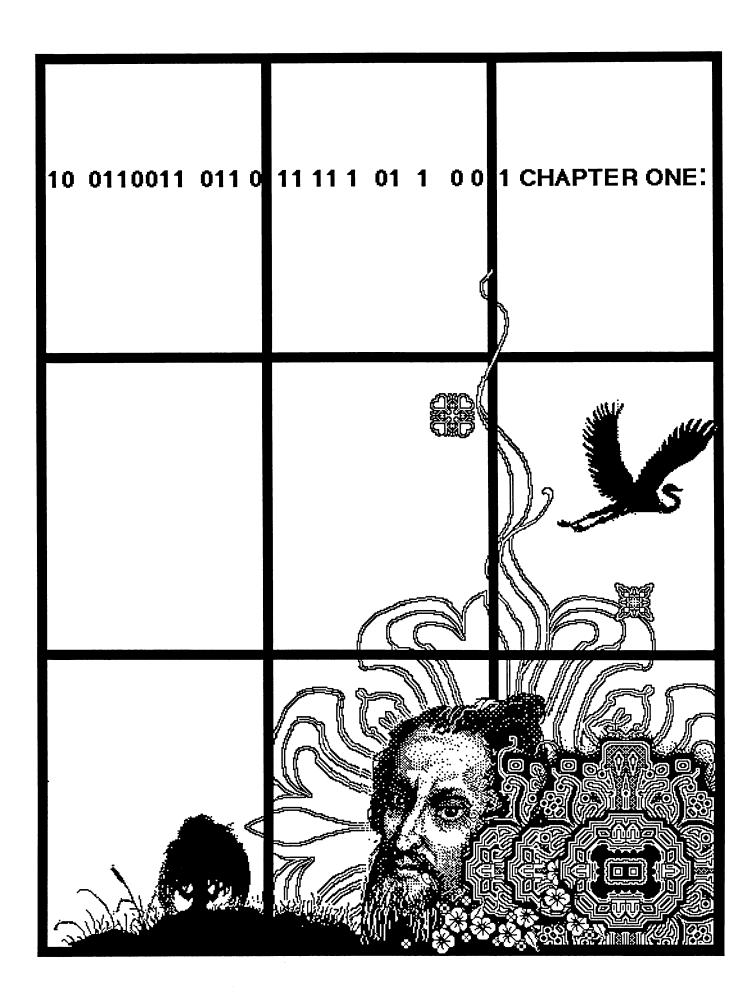
Neat and getting neater, I should add. This book is a walk—through testament to the extraordinarily compressed evolution of the Mac, from its 128k Dark Age origins, through the Classical 512 period and into its present Imperial might of four million bytes of memory. These pages also bear the mark of each new graphic aid to come along—both in software and hardware. Hands down the most significant of them all was...

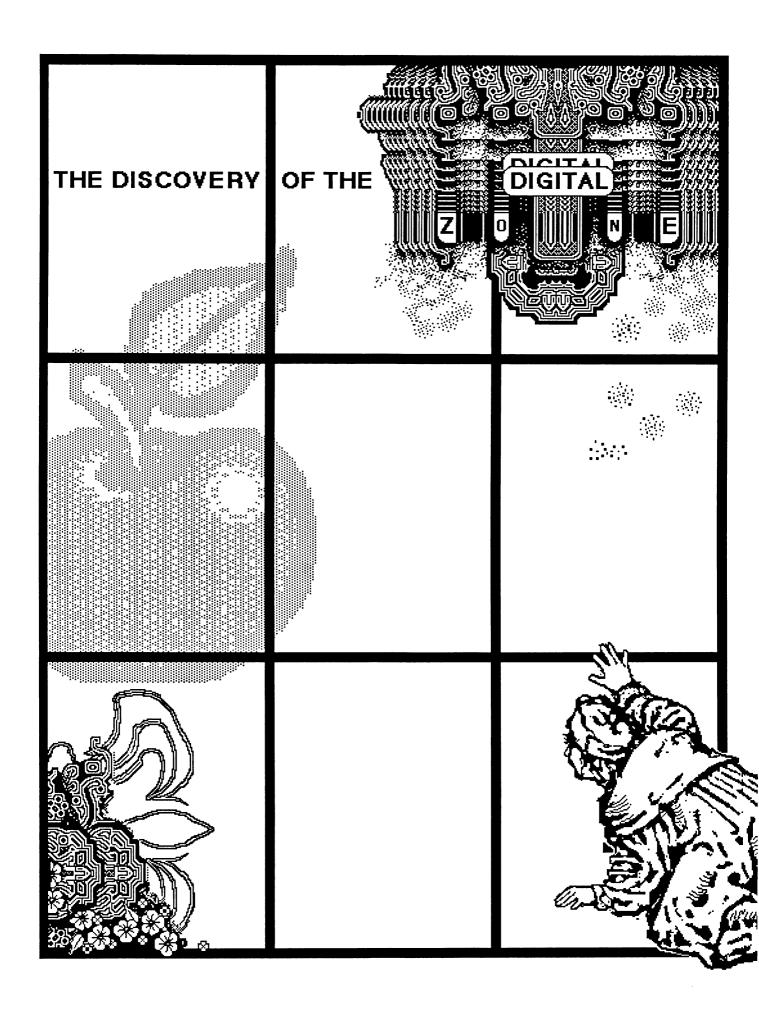
The <u>Laserwriter</u>. Together with a digitizer and a page design program, it initiated a whole new slick high-resolution ball game. (And changed the look of the book so much I felt obliged to go back and redo the text in many of the early solo MacPaint pages.)

Throughout its creation, ZEN AND THE ART OF THE MACINTOSH gathered momentum with a will of its own. What started out as a simple How-to manual with a catchy title became not only an exploration of advanced personal computer graphics, but to my own amazement, an electronic *Pilgrim's Progress*;

the illustrated log of an outsider navigating the busy binary pathways of computer enlightenment.









write and illustrate books, using the traditional tools—pen, paintbrush, type-writer. Computer graphics never moved me though. The art seemed heartless and industrial—ideal for Superbowl logos—but not for me. In fact, I found the whole cultish Omni magazine gee-whiz-futurism around computers offputting—particularly when contrasted with jittery teenage arcade game addicts, or the boringly opaque world of business spreadsheets. I inclined toward the opinion that silicon chips were an alien spawn bent on replacing we humanoids as this planet's dominant life-form.

Then the tedium of endlessly retyping my last manuscript finally jogged my common sense. I saw that a word processor could simply be a no-jive, useful *tool*. I would get one.

You don't just go out and buy a computer. Like Marriage or joining a fraternity, this particular rite of passage begins with The Search. Computers Then I saw an incredibly detailed drawing of a Japanese girl displayed on the new

Macintosh.

not only have widely varying prices and capabilities, but distinct personalities as well, and the one you choose should match up to your own.

An interesting discovery during the quest for my new TechnoMate was that arcade-style games had been replaced by the *interactive text adventure* as the computer diversion of choice.

In case you haven't yet been entranced by this phenomenon, I should explain that in a text adventure, you are the hero on some vague exploit wandering freely around an imaginary world by passing from one juncture to the next. Each juncture presents multiple possibilities and predicaments; you type your response into the computer. The results then read out (Text) on the screen, and off you go again (Adventure).

And again, and again...until you find the Mystic Jewel of Zit, or are destroyed by the Necromancer, or what have you.

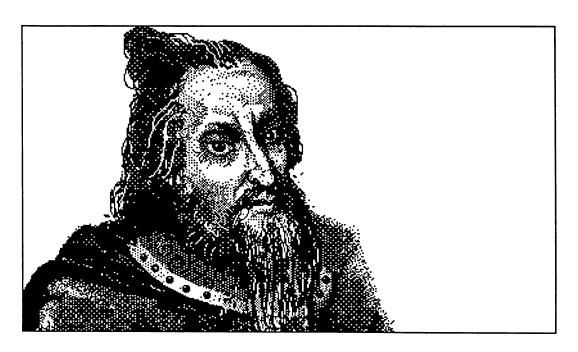
Text adventures seemed to have interesting possibilities. A new, involving *literature du karma*: novels where the reader's cleverness and wisdom would determine the outcome. Hmmm.

Following the classic Silicon Valley Scenario, I (1) came up with the necessary Highly Original and indeed Bankable Idea for a text adventure; (2) a friend appeared with the venture capital needed to realize it...and (3) a software company was born!

Several months later I had a beautifully tangled MS of interlocking situations. But as an illustrator I was feeling oppressed. Nothing but words, words, words. How about pictures in this adventure? Alas, the clutsy "hi-res" graphics around only promised to dull the imagination, not spark it.

Then I saw an incredibly detailed drawing of a Japanese girl displayed on the new Macintosh.

It demonstrated a whole new level of graphic finesse for personal computers. Even though the Macintosh was ostensibly a business machine, it seemed to be a harbinger of things to come for designers and artists as well. I bought one.

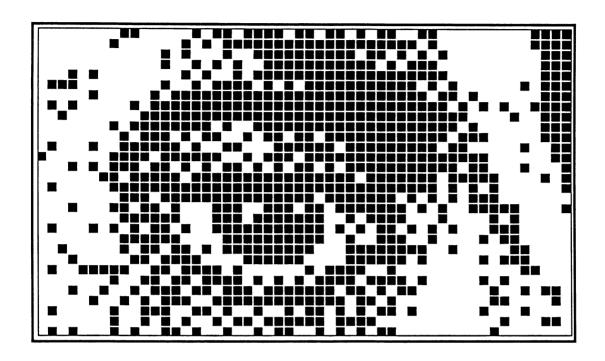


This is **The Wizard Dis**. My first picture. It took me the better part of a day to learn the basic MacPaint tools and draw him.

I was fascinated.

Somehow the process of laying down lines and forms, then moving them around, erasing and restoring them was characterized by an electric feeling of lightness: you could almost feel how the picture was just a dancing pattern of charged particles in a microchip, and I was coaxing them into becoming a wizard's face.

Then I discovered that I could...

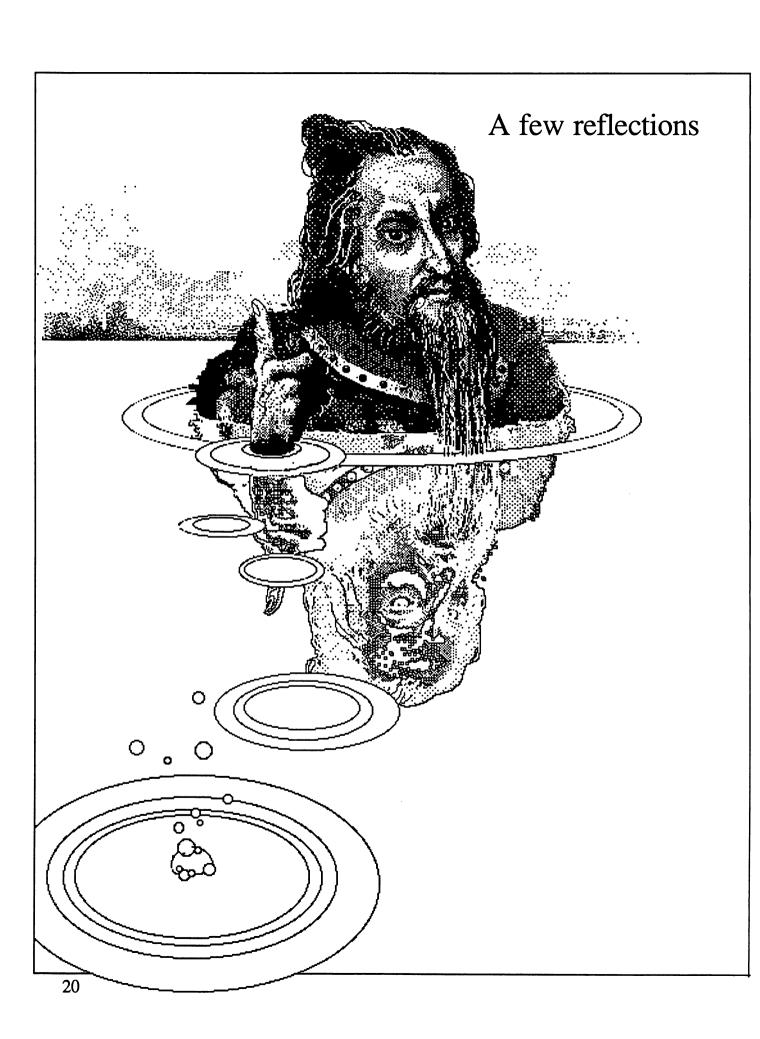


...ZOOM into any section of the drawing by evoking a command called Fat Bits, then tailor the minute dots on the screen *individually*...like going in here and getting the highlights on the pupils *just right*.

#### Most extraordinary.

First, the ability to erase and alter to my heart's content, and now this *power* to get into every nook and cranny. I felt like a scientist learning to redesign atoms; a microsurgeon operating on reality.

I started to pick up speed. I found that once I had my wizard, I could *play around* with him. Like this...



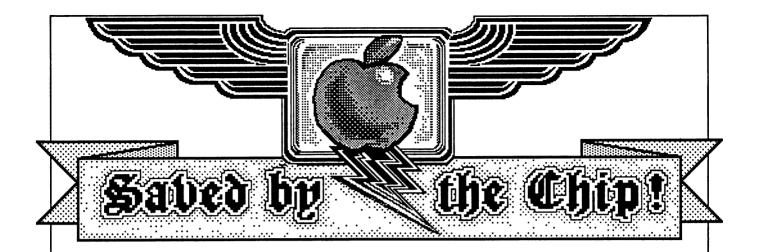
#### A Few Reflections Indeed



I was in deep trouble. Who would have guessed the strange delight this new tool would bring? My attention was riveted, my imagination was zapped, at the end of a day at the screen I would still be happily noodling around like a kid with a new electric train. But this excitement had created a strange predicament: a substantial amount of money had already been invested into my text adventure, and the simple truth was that my interest in finishing it had dropped to zero.

An electronic portal to a whole new world of graphic possibilities had opened before me, demanding immediate exploration, and I had enthusiastically let myself be drawn in. In fact, I was hooked, captivated by the sheer amount of careful and intense planning that had been so gracefully compressed into its circuitry and software.

A waning interest in projects is normal; you can usually revive it, and tough it out until you do. But now I had entered the Secret Garden of the computer age—the DigitalZone—and my attention had been totally copped! I couldn't even imagine working on that text adventure now.



UNEXPECTEDLY, IT WAS THE MACINTOSH that rescued me from this bind. Like many solutions, it seems simple and self-evident in retrospect, but I was feeling pretty jammed at the time, and it hit me like a bolt of lightning. It happened like this...

I was designing a letterhead for a friend. It began as a fairly routine exercise, but let me walk it through in detail.

First I typed the name out in big double-spaced caps.

#### HIGHLAND DAIRY STUDIOS

Next a border. Better yet, a double border.

#### HIGHLAND DAIRY STUDIOS

OK. How about



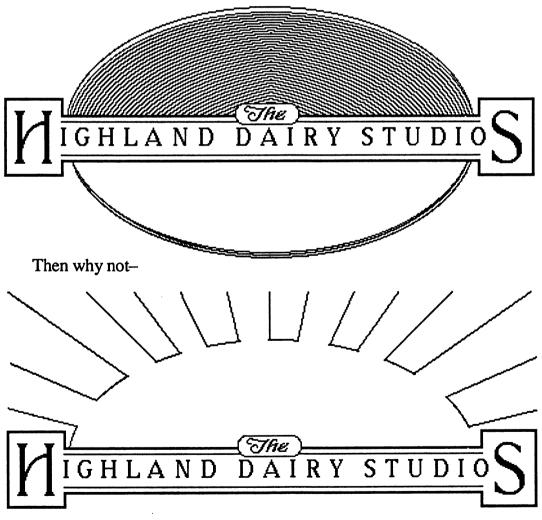
Still boring. Let's enlarge the first and last letters for a little snazz.



Getting closer. Friendly FAT BITS will help us dress up the S, put a little flair in the H, and redo the the. What else?



Play around, of course. There is such a range of things that Mac-Paint can do to an image that once you get familiar with its tools, your horizons really open up. Designs start sprouting out in quite unexpected ways. A little experimenting produced this oval. Too heavy...but it looks a little like a sun.

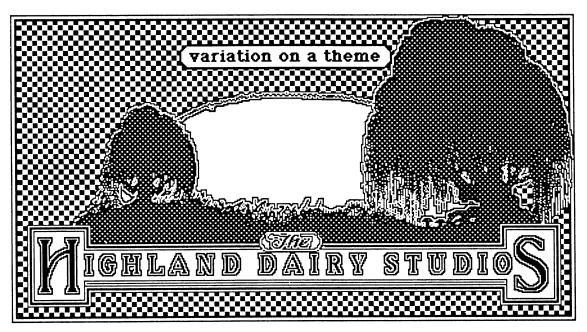


Or is that too mechanical? Ah! What if the sun was rising over a landscape?

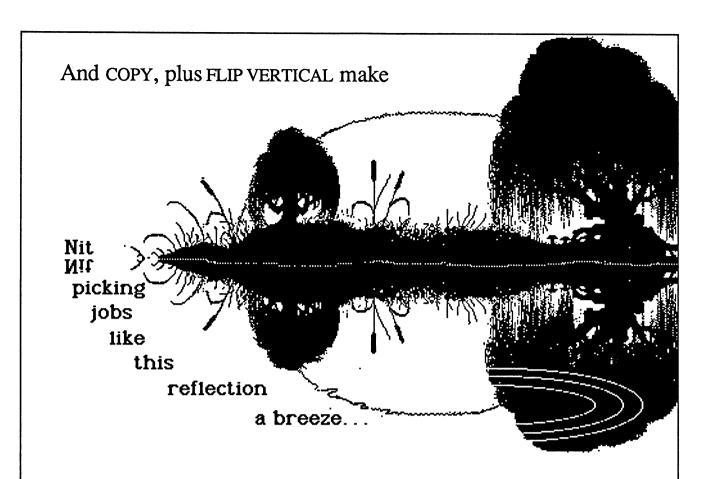
#### Like so!



Once you have something to work with, and start rolling, it's hard to resist the excitement of experimenting with the limitless number of special effects obtainable by combining two or more tools. For instance, TRACE EDGES, EDIT PATTERN, and FILL can create this...



...almost instantly!



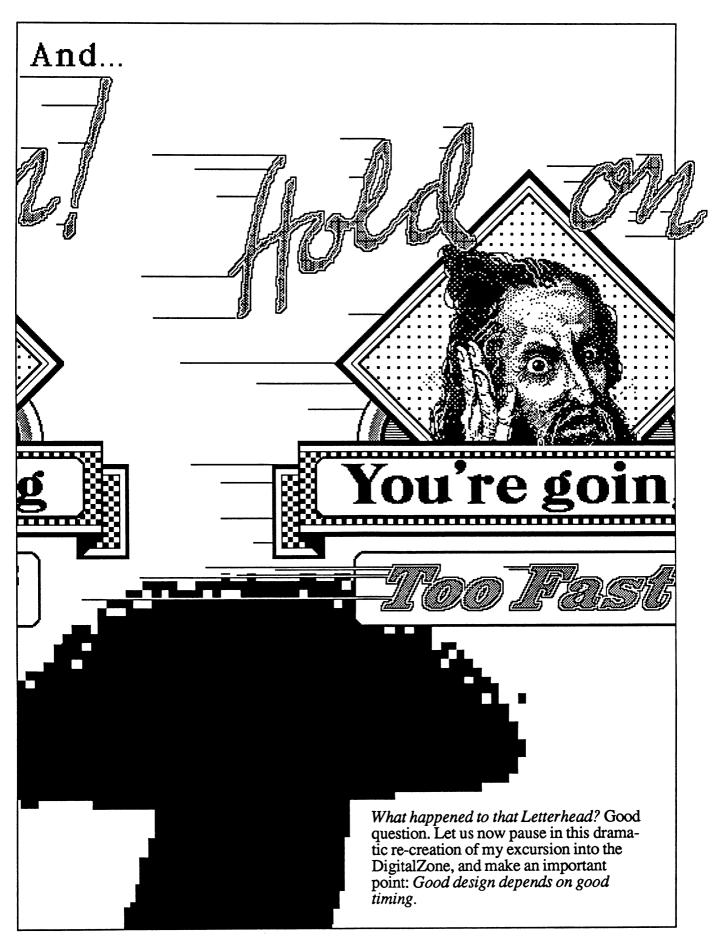


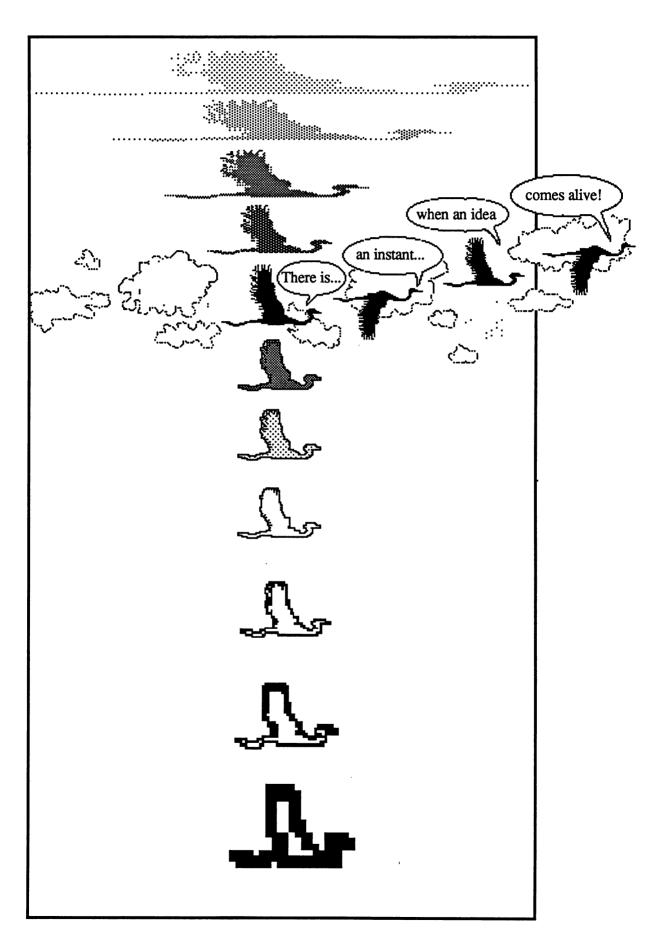


and...















If you freeze it...

too soon, it's still unformed and incomplete. Premature.

But if you play around too much, you'll wind up with something over-worked, baroque, or wifty. You lose touch with the vitality of the original impulse, or cover it up so that no one else but you sees it.

You have to catch the moment on the wing, so to speak.

#### However...



Is so fast and so fun, it just leads you on and on. You don't want to stop, even when you know you should.

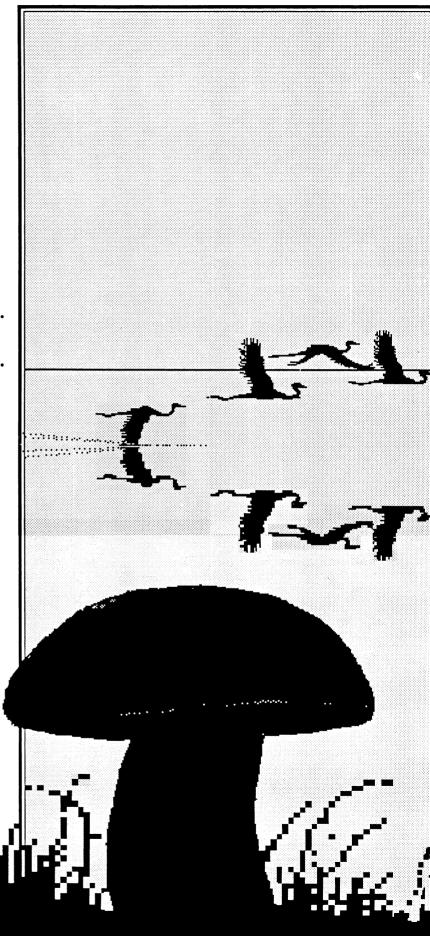
What to do?

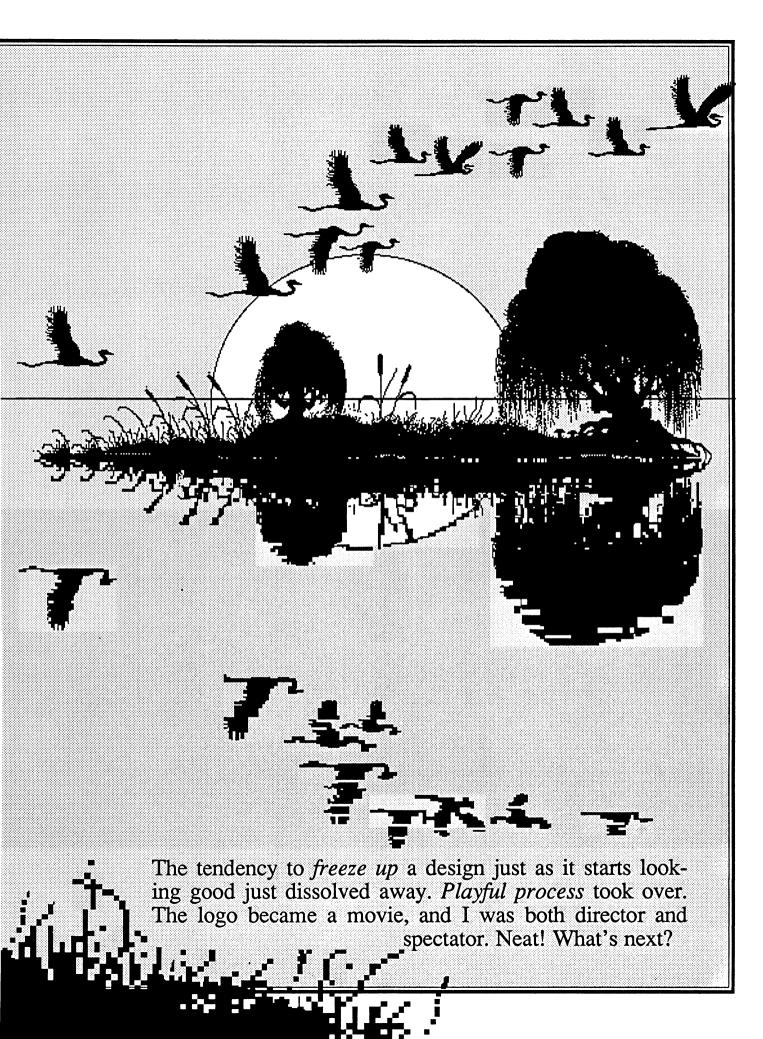
I suddenly caught on to the power of the command SAVE AS.

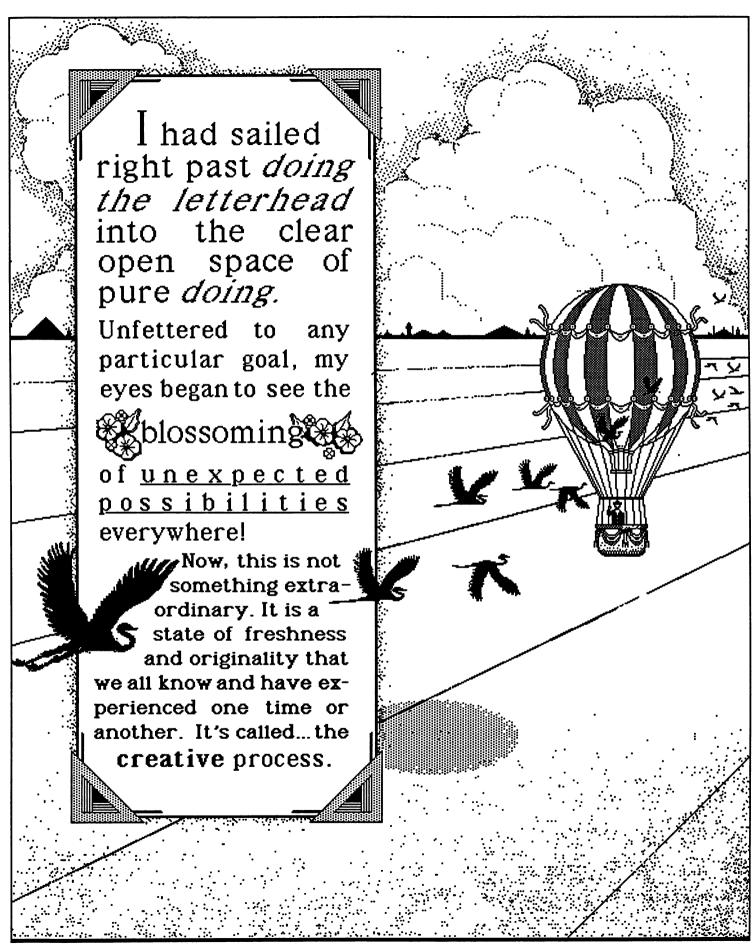
It was a conceptual safety net.

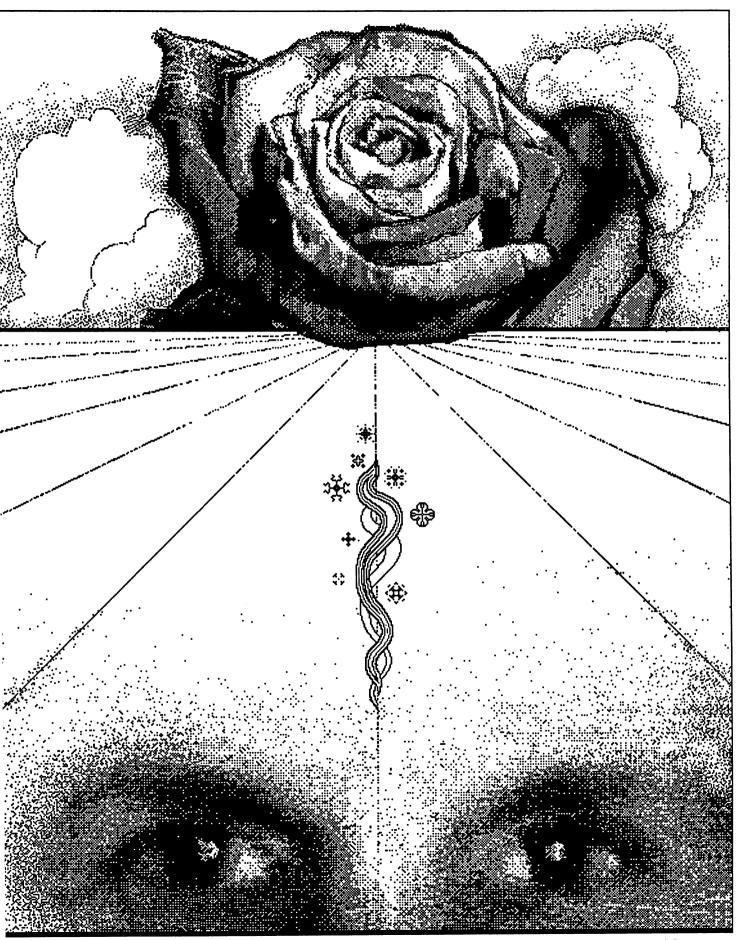
With it I could snapshot and stash away any graphic idea, any time, and continue playing around with a copy of it. With impunity—and without missing a beat.

This had a wonderfully liberating effect.

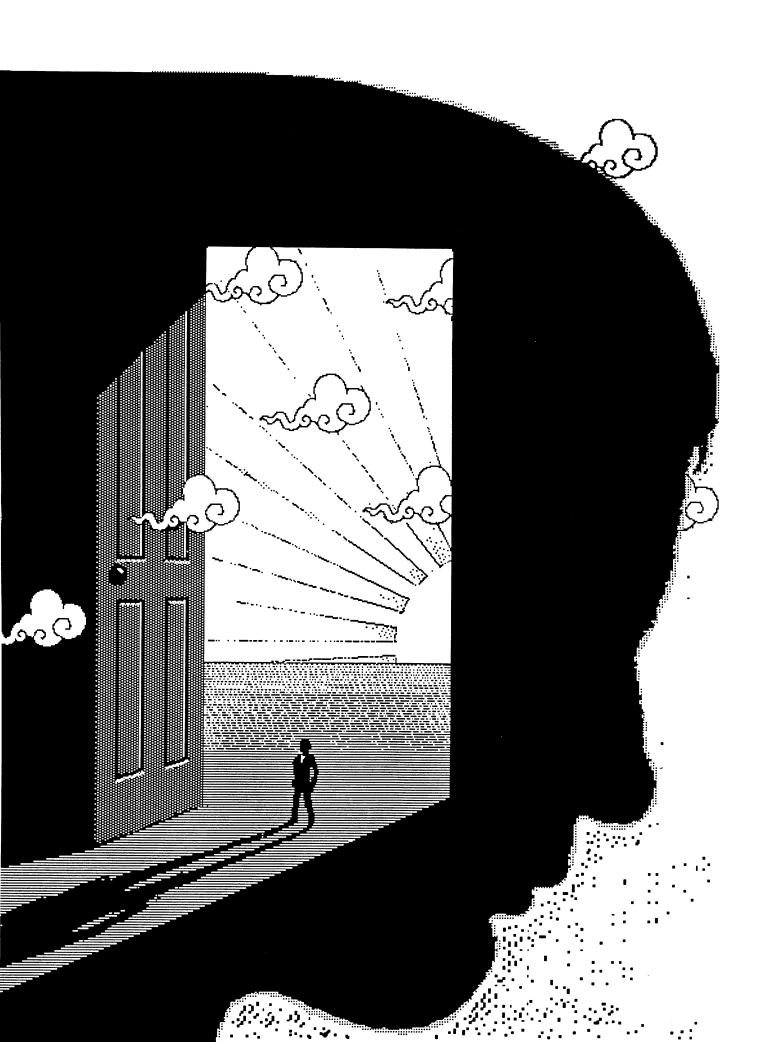


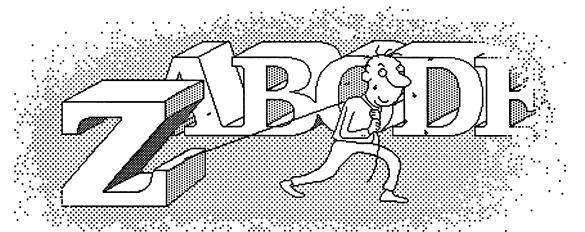






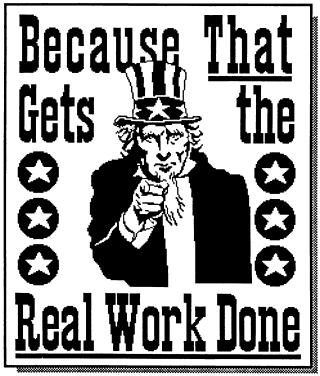
# We just ignore it most of the time...



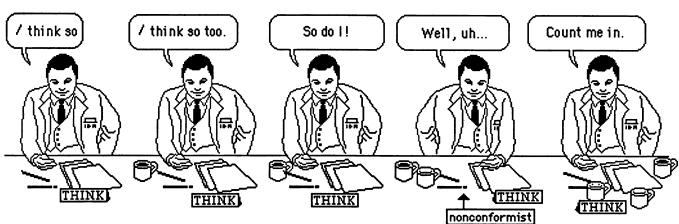


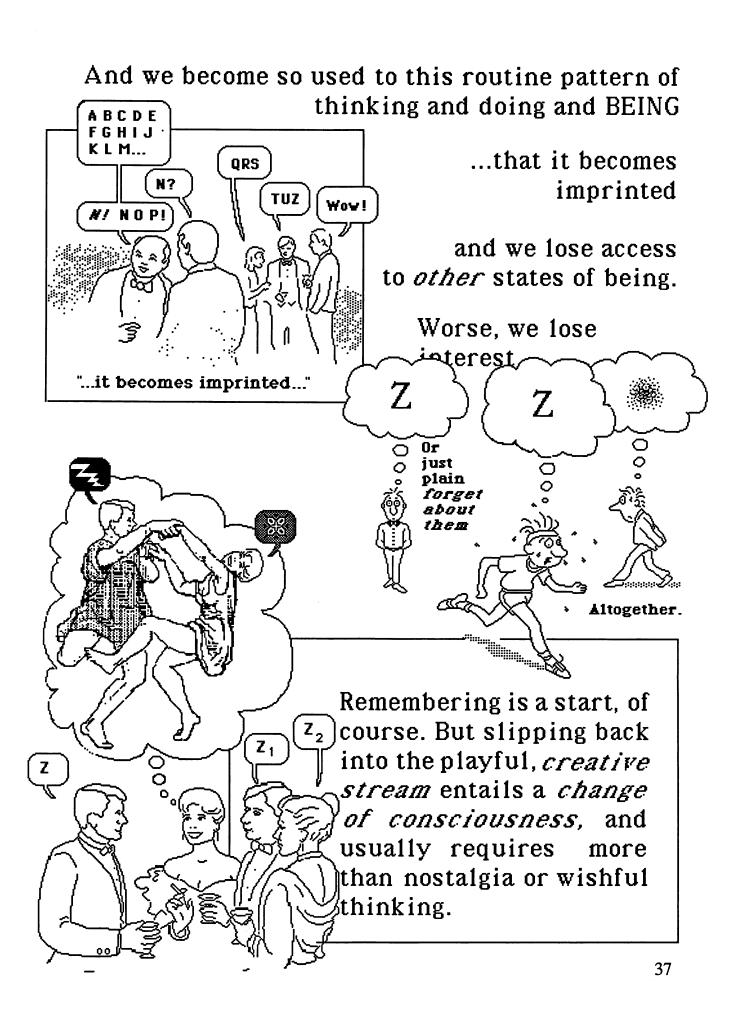
After all, one must get on with the goal-oriented

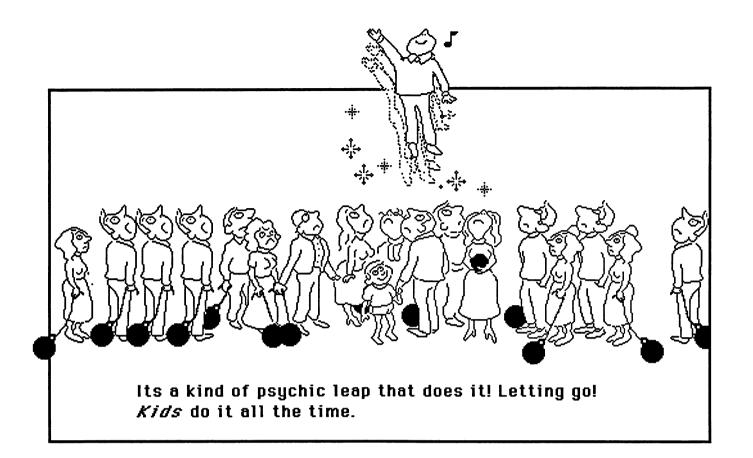
duties of the world.



...Or so we think.







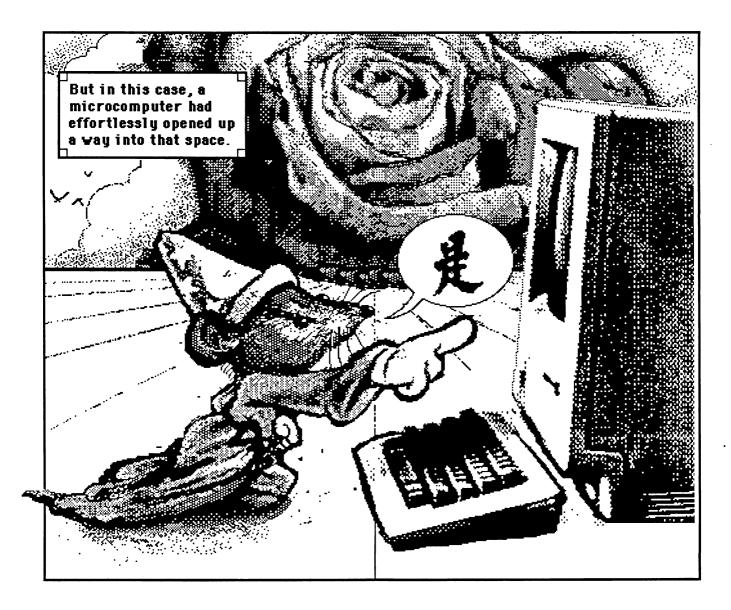
# BUT THERE'S A CATCH. The harder you try, the more elusive the execution.

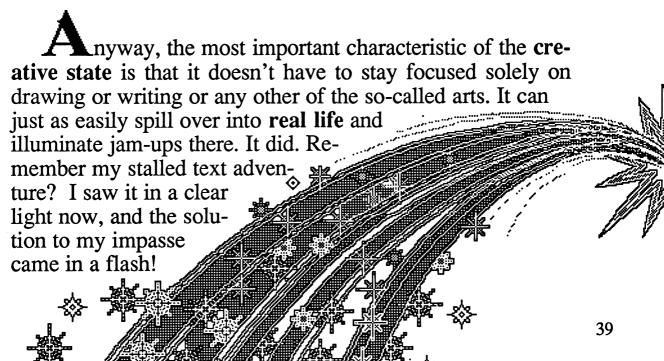


Heavy-handed element

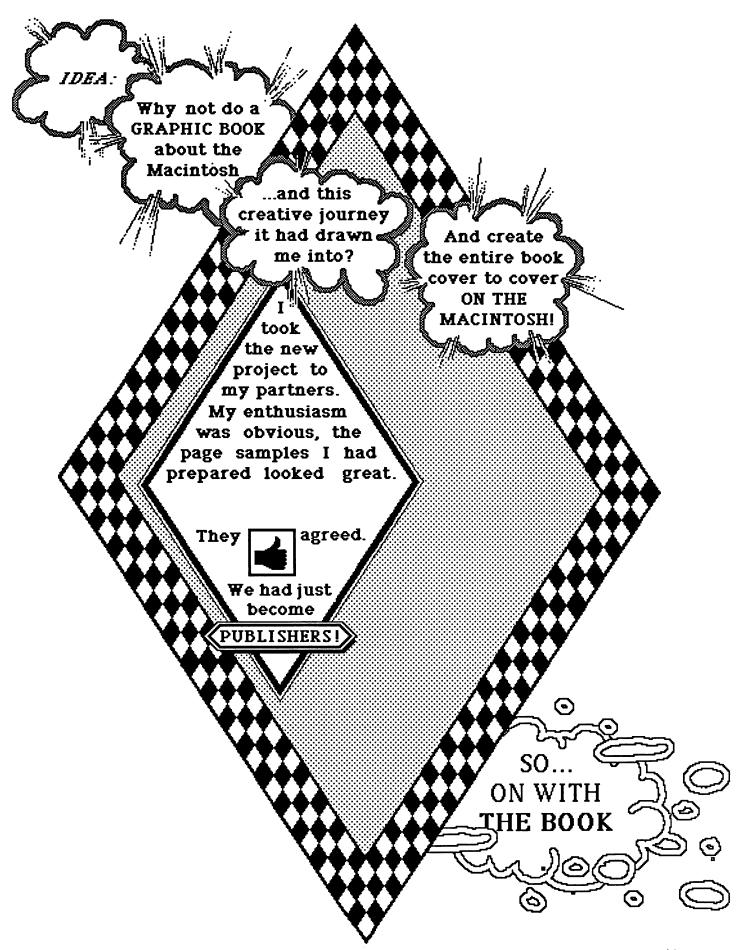
The reason is simple. While the creative process is characterized by a light and jaunty attitude very close to not caring at all, the part of you that's always taking charge of "getting there" is the same old heavy-handed element that's been running the Goal Oriented Express all along, and, as usual, thinks it can force the issue to get results.

No way! The gates of heaven cannot be stormed, nor are the muses inclined to grant their boons to those who lack abandon.

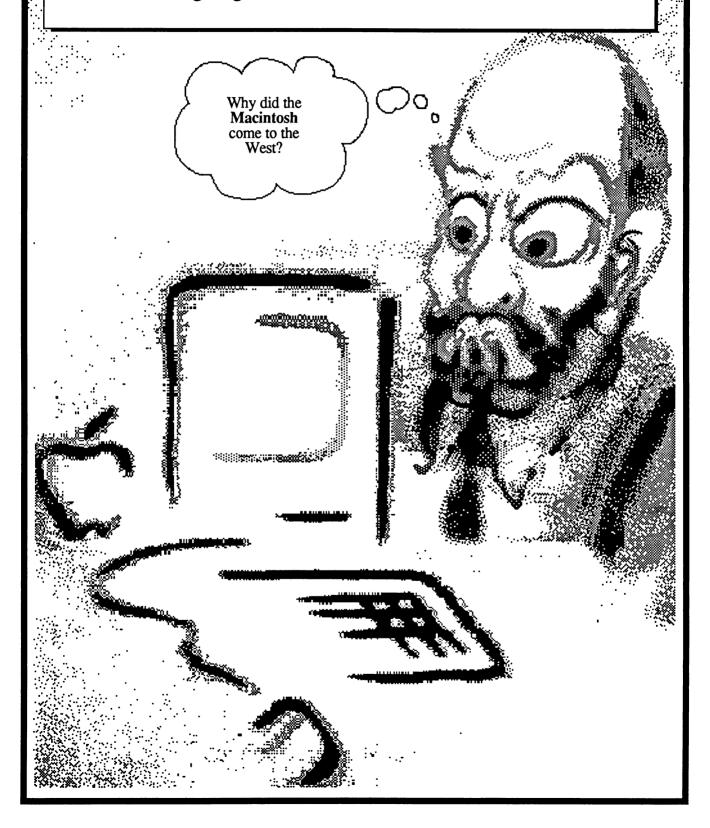


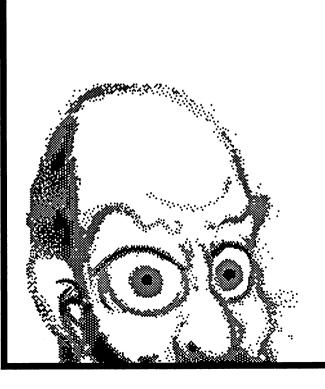






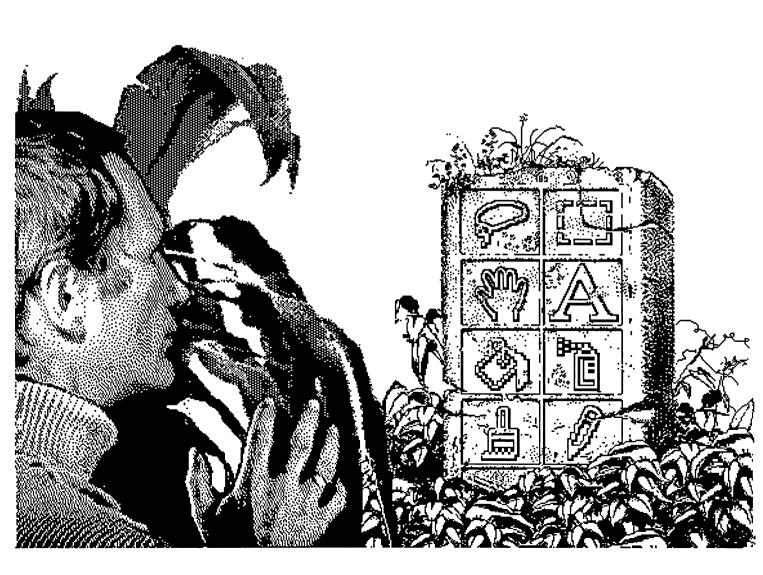
The all-important title came immediately and without struggle: ZEN AND THE ART OF THE MACINTOSH. I liked it. It was intriguing.



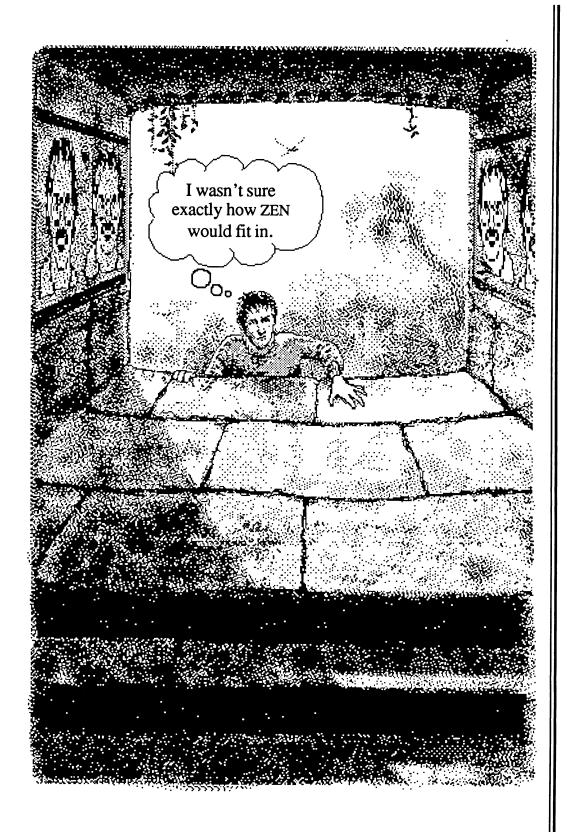


The "Art of the Macintosh" part was obvious enough...

CLEARLY, A BOOK
ABOUT THE CREATIVE
POSSIBILITIES OF THE
MAC...
A KIND OF EXTENDED
GRAPHIC SAFARI
EXPLORING THE
FURTHEST REACHES
OF MACPAINT,
AND ITS POTENTIAL
TO OPEN UP
NEW TERRITORY.

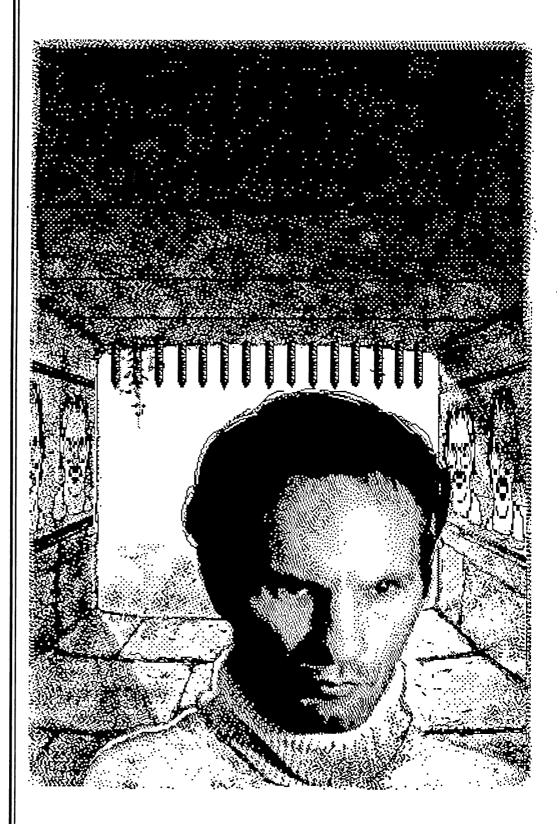




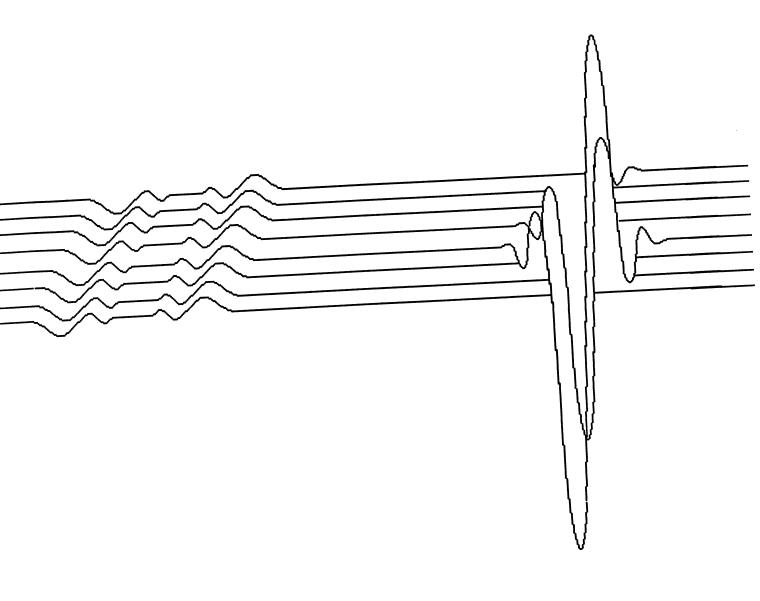


But I knew it was right. I sensed that an important quest was unfolding here.

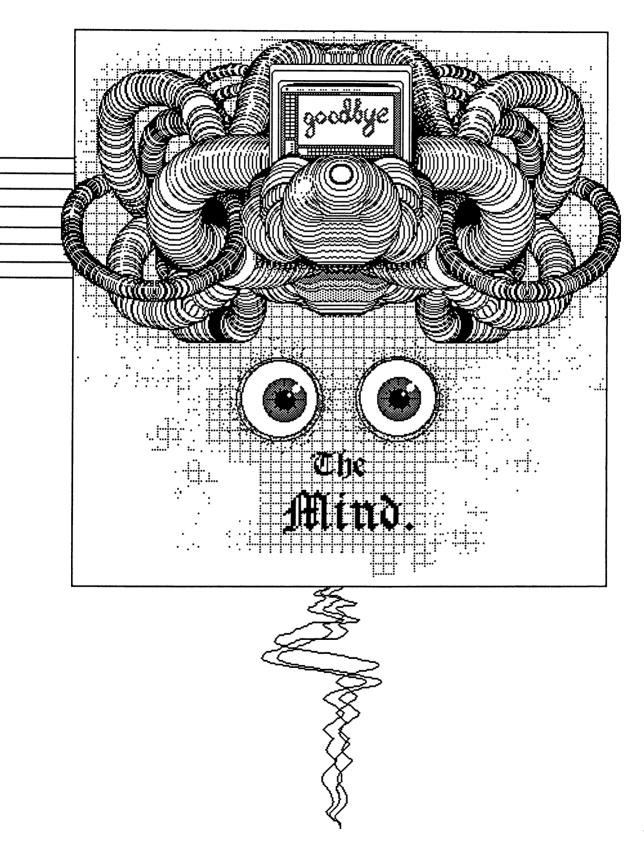
...And that if I pursued the matter with a spirit of open inquiry, the content of the book could not but move into deeper territory.



Little did I realize what strange adventures lay ahead.



# ...ADVENTURES OF





Dear Reader,

For years I have regarded computers with deep suspicion. But as the old Taoist saying goes, "What you resist you become." To my own amazement (as well as my friends'), I found myself hooked on one.

A strange turn of fate. But now, with a book to do, I could give myself over without reservation to the "relentless fascination of the computer."

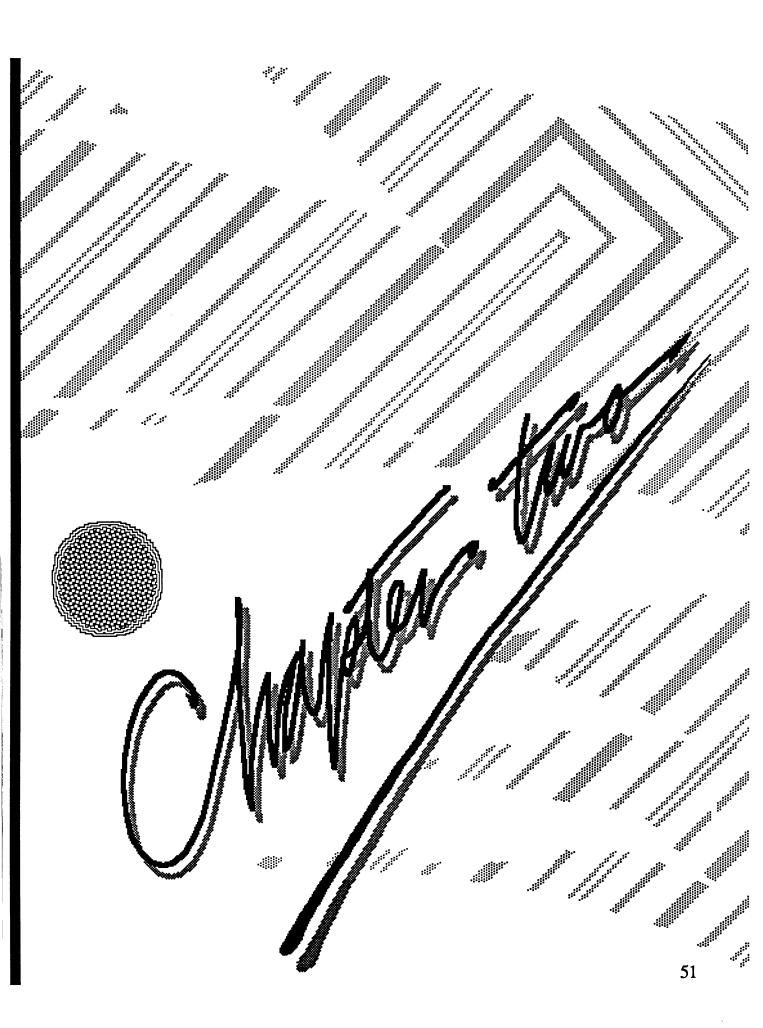
I became a hacker--no, a <u>Macker</u>. Professional class. Assignment: Venture boldly forth where no man has gone before. Take the Macintosh and MacPaint and plumb their secrets, their limits, their natural style. Flight test any soft and hardware that will help the voyage. <u>Have a good time</u>. Let the book grow organically from what you do and discover. Learn. And bring back the results.

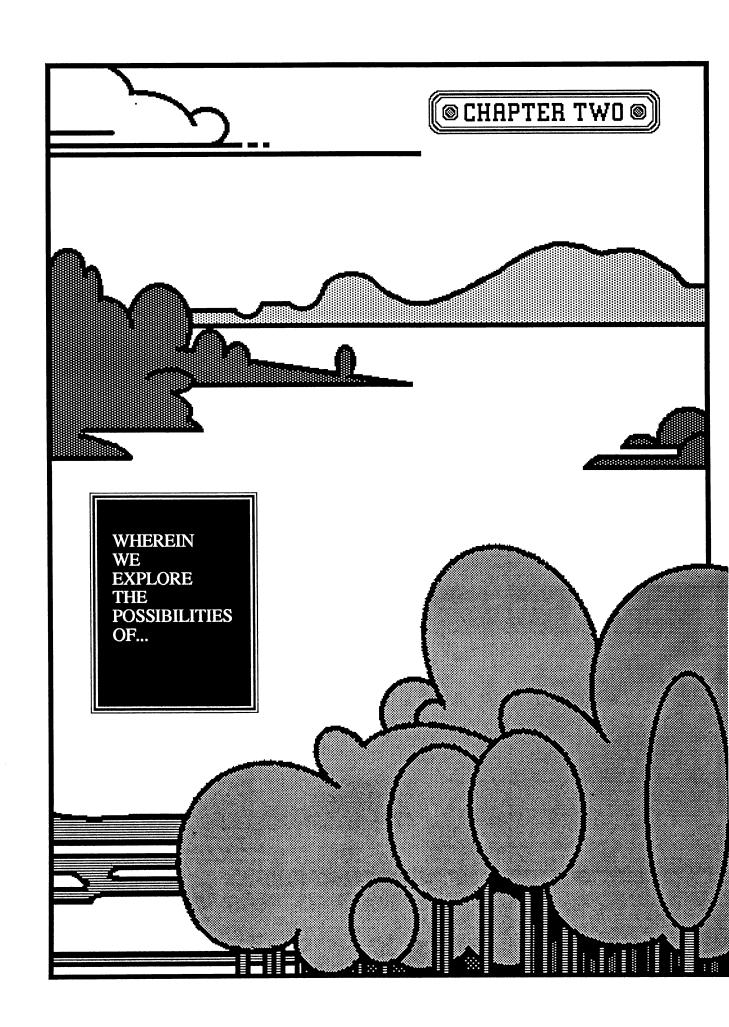
And--yes--the simple letterhead on this page is the final result of <u>all that business</u> back there. After all, to satisfy real-world realities you do have to keep your head screwed on straight. When all is said and done, <u>less</u> is often more.

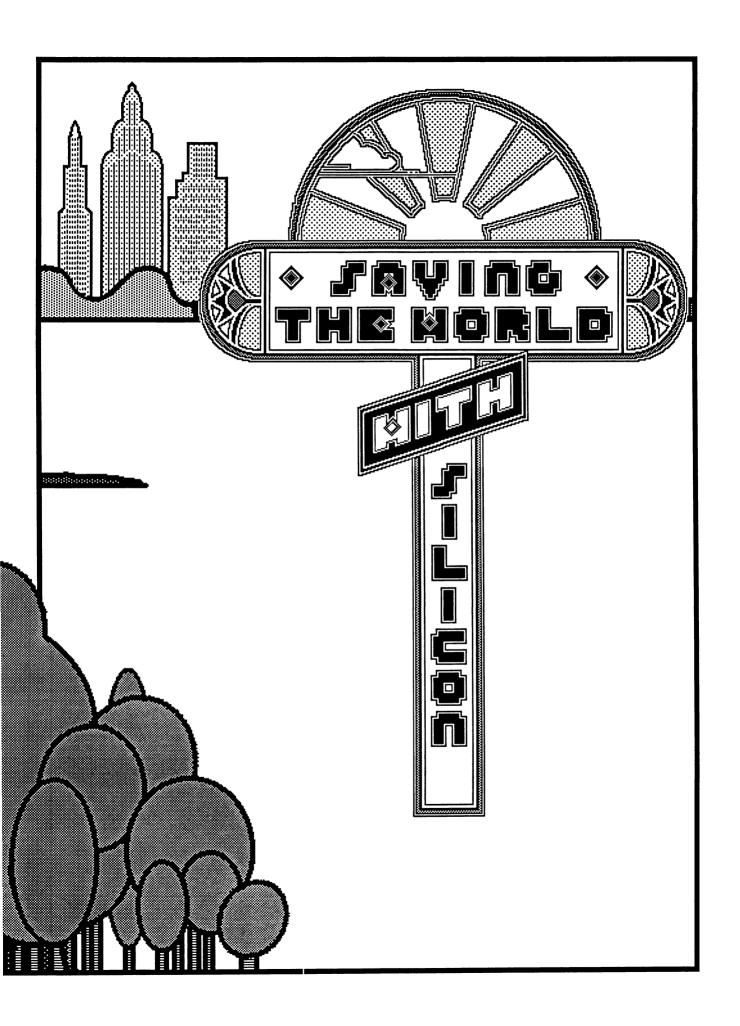
Onward!

M. Green





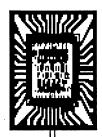






"The computer is by all odds the most extraordinary of the technological clothing ever devised by man, since it is an extension of our central nervous system. Beside it the wheel is a mere hula-hoop."

-Marshall McLuhan



Jobs are neglected. Friends and family fall away. Ultimately the computer becomes the central focus of their life. They give themselves totally over to its fascination and become unapologetic Info Junkies, Computer Freaks, Techies, Hackers.. whatever. Weird. But the weirdest thing for me was that (until now) I hadn't the slightest glimmering of the experience they were having. Even from a distance though it was obvious that, like the hero of Tron, these micronauts were really getting into their computers. A neuro-bionic relationship? My curiosity was aroused, but I knew this boy just wasn't equipped with the highly logical mental apparatus necessary to get on with even entry-level hacking. The whole thing seemed destined to remain another mystery of the Modern World. But with the Coming of the Macintosh, an updated, streamlined variation of this relationship was made available to everyone who would otherwise have had the money, motivation, inclination, or brains to catch the wave. You know, THE REST OF US. The picture is considerably clearer now: A computer can interact so delicately and precisely with the intellect that it really does becomes an integral part of the cognitive process—something that no mere mechanical contrivance could ever do before. It communicates for you, to you, with you. It becomes you.

55

is easy to see now how it could become their nonverbal, symbolic meanings. And finally, combining your images with words to change the way But there is a crucial difference between you think about communication...maybe even the way the Hacker and the new...ah...Macker. you think! A Hacker/computer relationship is based The way You think? The way You are. "Creative" or "Routine." Two different outlooks, two different ways to be. on the manipulation of information, arcane puzzle solving, a love of penetrating and exploring the rational, highly abstract inner logic of Ok class, lets get organized. Make two columns in computers just for the intellectually rigorous zing of it. your notebooks: On the other hand the Macker/computer relationship On one side is the **Analytical**, and it learns is a playful, even magical partnership established on the creation of images and about things by taking them apart. The other is not so focused. patterns, on the joy of effortlessly It's looking around at the manipulating them, on exploring larger patterns, the **Possibilities** 

...looks around at the larger patterns.

wholes that are greater than the sum of their parts. Therefore it's called, (all together now), Holistic.

Analytical You thinks and communicates with thoughts and words.

**Holistic You** is happier with feelings and images.

Analytical You deals with information in a serial manner, one bite at a time, in strict sequential manner.

Holistic You is all over the place, sampling many different things, and often simultaneously.

LIFE FORM

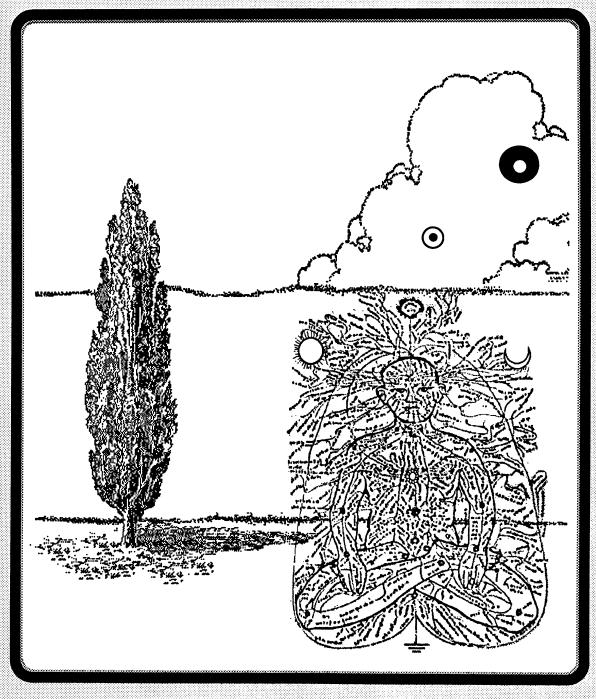
Analytical You makes decisions by the formal, rigid, explicit methods of logic. It travels exclusively on the Goal-oriented Express. Holistic You is heavily into the informal, fluid, mysterious method

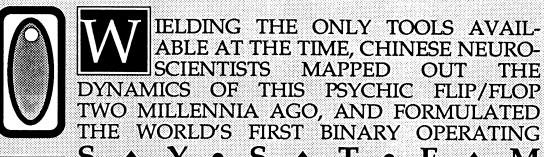
REDUCTION CHAMBER

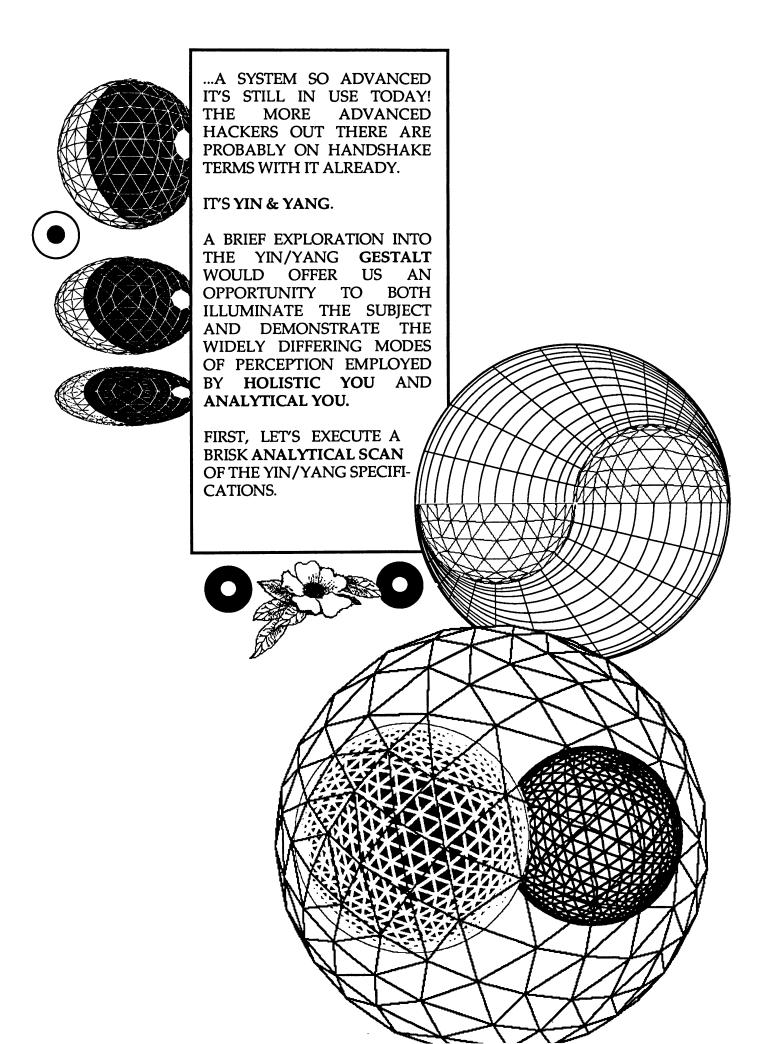
Analytical You

of intuition. It gets about by strange and astounding-leaps.

Analytical You is scrutinizing these statements for flaws in accuracy right now. Holistic You has already lost interest in the discussion. It's—She's (!)—probably staring out the window, wondering when we're getting the on to picture. next **PRODUC** IDEATION APPLICATIONS DEVELOPMENT MODULE THEORIZER DATA EXTRAPOLATOR PATTERN RECOGNITION BUS RIGHT WING UNIT BODY UNIT ...learns about things by taking them apart.

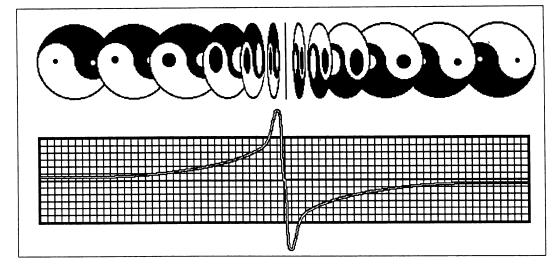








## YinYang 1/0 Sophisticated Binary Integration System



An extremely efficient multipurpose conceptual environment for multi-level comprehension and integrated management of all elemental phenomena. Encoded in CPrInM ™ (Cardinal Principle Matrix ), a highly evolved non-linear natural language which templates all data in relation to the familiar Cardinal Principles, i.e., The Creative (—) and The Receptive(—), and their various subsets: The Formed; The Light / The Dark; The Male-paternal / The Female-maternal; Space / Time, ditto. YinYang 1/0 reconciles these opposing forces into a coherent whole. Benefits reportedly include:

- 1. "Bringing about a flowering of all things."2. "Restoring balance and harmony to the Universe
- and to the affairs of men."
  (Imbedded referencing to social conditions, interpersonal relationships and internal human development automatically maintain YinYang 1/0's high interface with the Analog (real) World.)

high interface with the Analog (real) World.)
First time operators of the YinYang 1/0 Binary
Integration System 2 report an extraordinary
incidence of Primary Belief Revision, while even
casual users consistently exhibit a marked
decrease in stress, increased networking
capabilities with other carbon units, and an
awakening of their proprietary higher natures.

### System Dynamics.

Unlike the static duality of the more primitive electro-mechanical devices now in common use, the Binary Integration System does not assign immutable values to the phenomena being analyzed. In defined, undefined and altogether random conditions of overload,

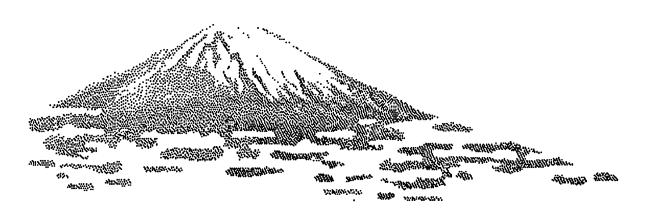
both Yin (1) and Yang (0) flip into the opposite node. Neither is immutable; nothing is precisely— or only— what it seems. The Prime Constant is change. Obviously **CPrinM** TM is fully convergent with Reality Patterns now being confirmed on the outer edges of subatomic research.

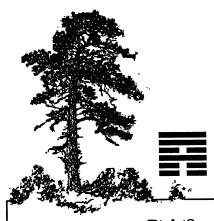
#### **Features**

- **User friendly.** Exceptional visual / conceptual integration and a structurally transparent language encourages a high intuitional penetration by operators.
- Installed base. YinYang 1/0 is the de facto standard throughout much of the world. User groups have created a vast database of public domain documentation.
- Reliability. The YinYang 1/0 System has been field-tested for over 4k years, earn-ing an unparalleled reputation for reliability.
- SERM Compatible. Full handshake capabilities with the operating systems of all Standard Esoteric Reality Models.
- Open Architecture encourages unlimited enhancement of the basic system. Powerful applications exist in the fields of health,

medicine, government, sexual reProgramming, martial arts and battlefield simulation.

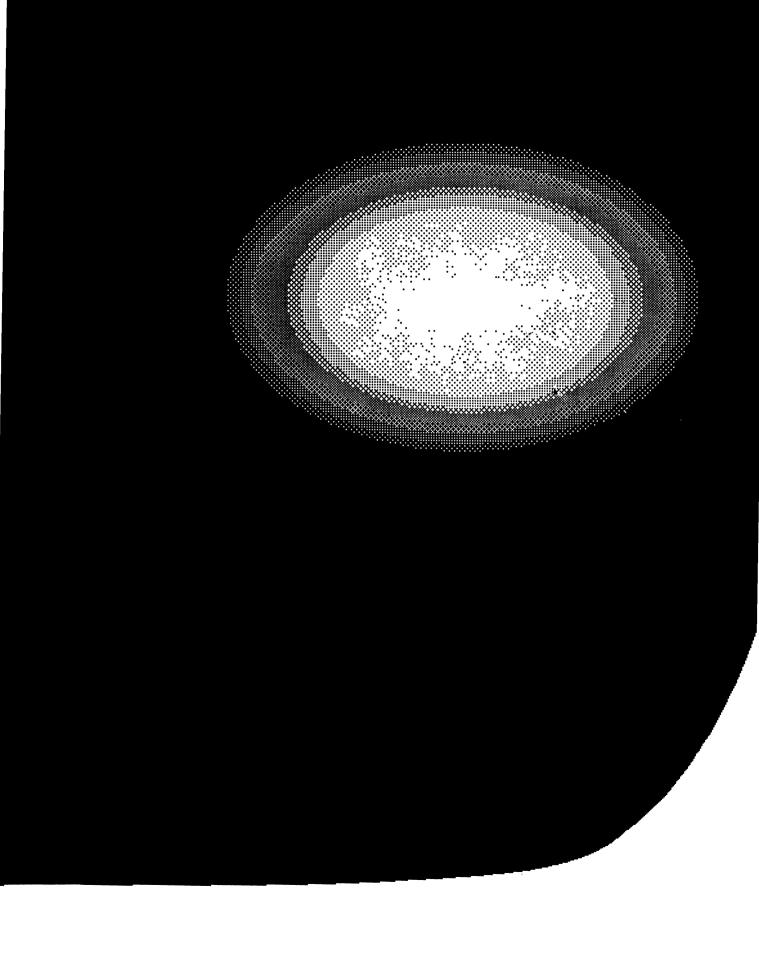
- Optional hardware includes the popular I Ching 64, an interactive field plotting device. By directly connecting its digitally precise CPrinM™ hexagramic progression with a randomized Unified Field Sensing routine, the I Ching 64 produces a marvelously subtle and accurate schematic of the interplay of opposing and complementary forces vectoring the life of the operator. The I Ching 64 demonstrates a profoundly satisfying natural order where clarity and mystery can run concurrently.
- Available software upgrades include fully optimized 1.618 Top-down Analog Operating (TAO) source code. Duality escape function provides a true non-Euclidean data scan of all sensory inputs. (F)orm = (E)mptiness; (E)mptiness = (F)orm algorithms implemented exclusively. For qualified users only.

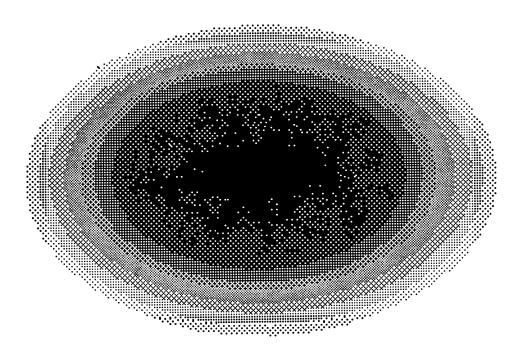


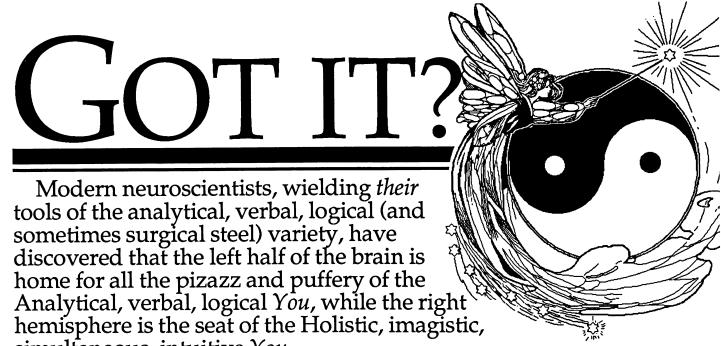


Right?

Now a more holistic approach. Please observe the deeper philosophical details imbedded in this updated schematic of the Yin Yang main data register (next two pages).



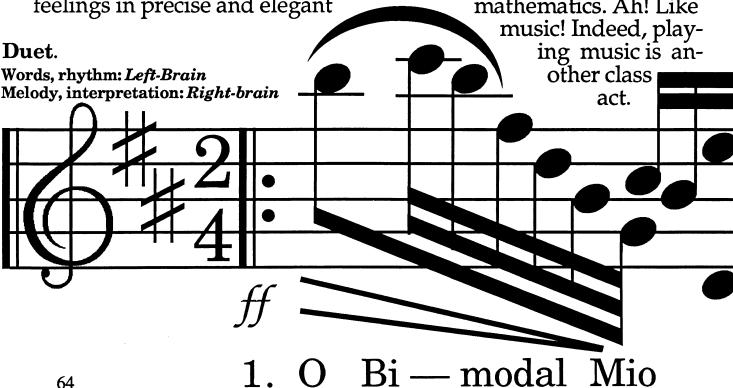




simultaneous, intuitive You.

Obviously certain activities fall largely under the domain of one side only. Recognizing a painting ("I just know that's a Kline, darling.") would be right brain turf; while filling out your 1040 form is definitely a job for Lefty. Of course the class act is when they get it on together. (The "Union of Opposites.")

when they get it on together. (The "Union of Opposites.")
Imagine young Einstein putting E=mc² together. He's been pondering the connection between matter and energy for months. Maybe he gives up. Then, slowly, he develops a deep sense of the problem. It grows stronger; he can taste the relationship. Not enough. Finally, he leaps the gap—and frames his feelings in precise and elegant mathematics. Ah! Like



Needless to say, a perfect, fluid balance between modes is an ideal, one from which most of us have fallen away. Instead of weaving right and left, yin and yang activities into a smooth interaction, we get split out of balance, and increasingly locked into one way of looking at the world.





From this perspective,

"Get it Together"

acquires a new & deeper

meaning.

Maybe we should say,

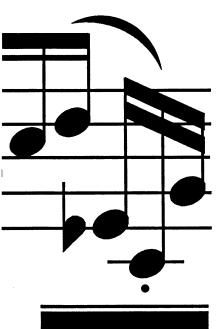
"Get Bimodal!"

米

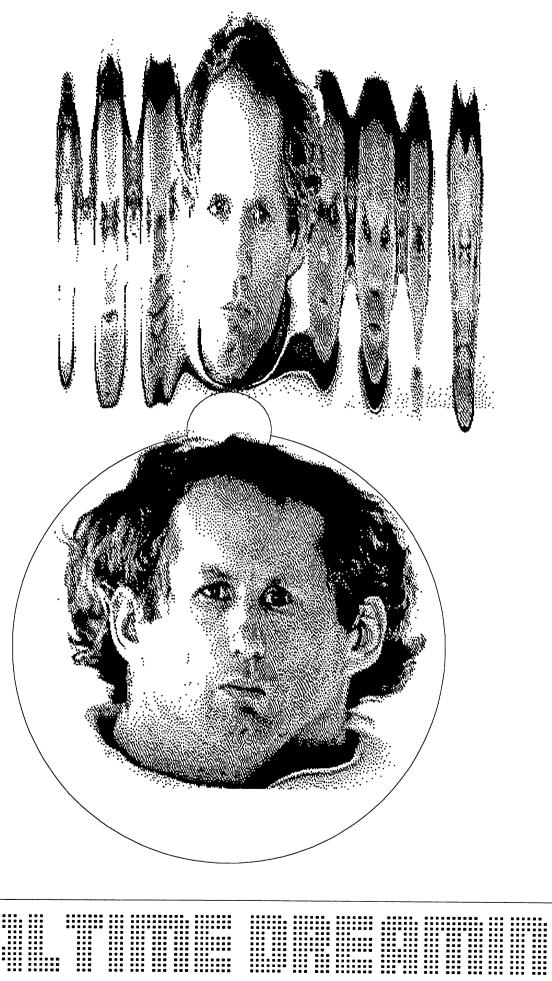
Our Mac is a place to get bimodal: a lucid, logical realm that positively encourages us to loosen up, start taking risks, & stop making sense.

米

Getting to speed you begin thinking with images.







Real-time dreaming, someone called it: discovering the joy in letting go of mental rigidity and surrendering to an electronically engineered process of transformation.

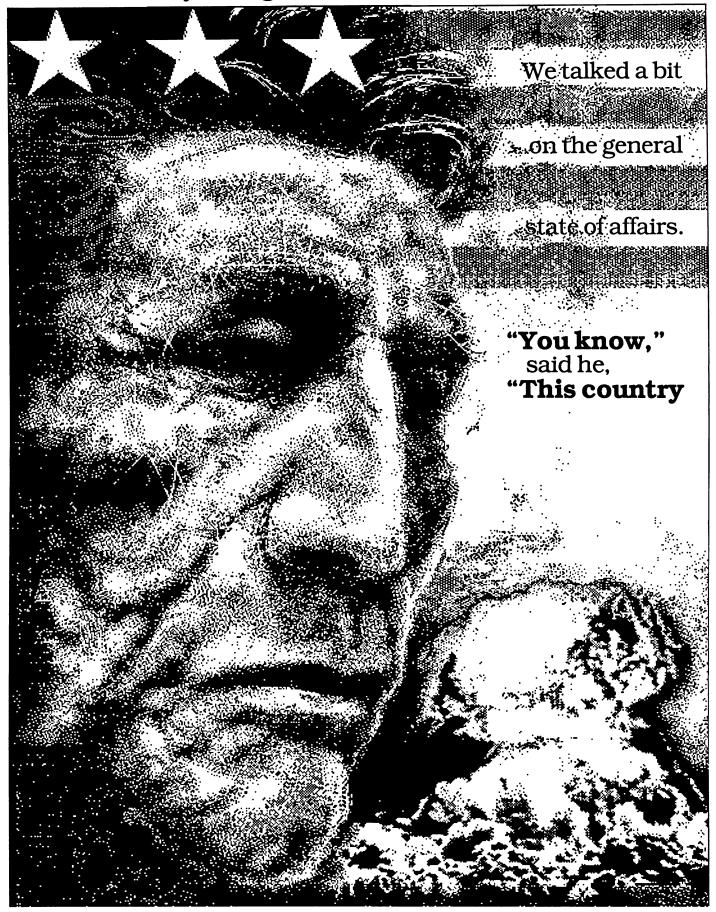
And the Macintosh is only the first of a new wave of fast, intuitive, intelligent computers. A journalist in Popular Computing made an interesting analogy. He said that if the growth of personal computing could be likened to the early movie industry, then the Macintosh is like the first talkie.

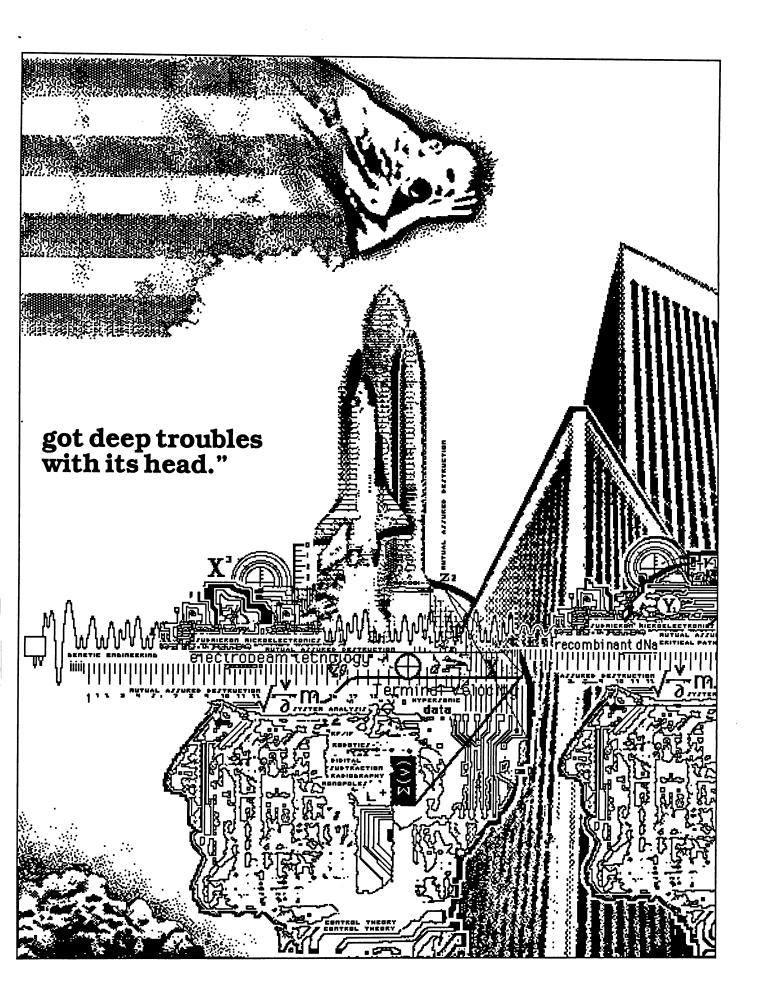
Like talking movies, the Mac may well have considerable social impact. Clearly its creators intend it to. In my investigations, one of the first things I picked up on was the legendary Apple aura. Programmed somewhere deep in its corporate counter culture origins is a powerful vision of the transformation of our civilization.

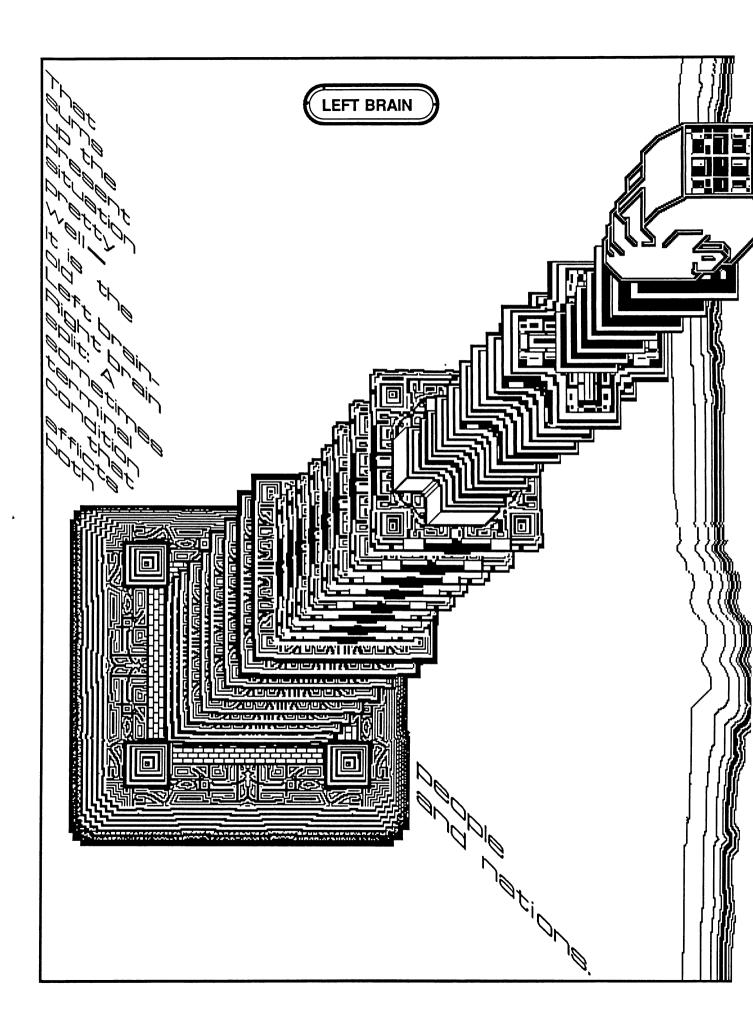
A civilization that could probably do with a little transformation.

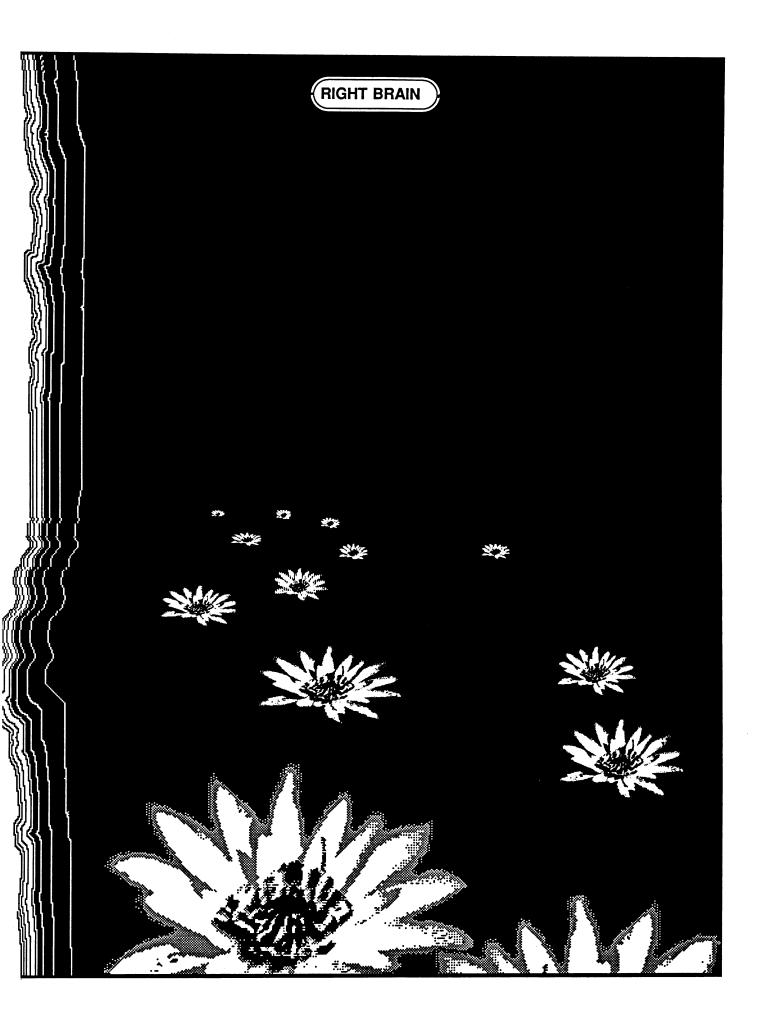


Several years ago, I met an old time Indian, a Mohawk.









OMEHOW, EITHER THE compassionate, intuitive, insightful (right) or the logical, scientific, conceptual, biocomputer (left) side of our nature assumes command, then ridicules, persecutes, and finally banishes the

Cut off from the tempering influence of a partnership, the dominant one becomes a grotesque and dangerous caricature of itself. Doomed to excess, its victory will be haunted and eventually undone by the spectre of its underground counterpart.

"The bigger the front, the bigger the back" goes an old Taoist observation.

Today, the aggressively technocratic priesthood of Normalpaths holds sway throughout the land, endlessly praising the god Science, and preaching his revealed gospels of Efficiency, Progress and the Conquest of Nature.

Yet even as we speak, the inevitable reaction unfolds. Erupting like smoke and shadow from the deeps of an angry earth, a new witch-haunted nation of MTV barbarians arises in our midst, consorts to a host of dark and wild gods.

So it goes, back and forth. World out of balance.

terres very

Despite the bland assurances of our leaders, a quick scan of the twentieth century reveals something is indeed terribly out of whack. Smell that L.A. air. Taste that Philadelphia water. Look for fish in our acid-dead lakes. Drive up the Mordor Extension of the New Jersey Turnpike: Hey everyone! We are living even now among punishment and ruins.

A dreary mechanical existence for the masses, an anarchic youth cult of rock 'n roll voidoids, a poisoned environment...are these the inevitable trade-offs we have to endure to enjoy an advanced technological consumer civilization?

I M P O R T A N T P R O D U C T



In an evolutionary countermove, has technology now given us the silicon chip to help...



Is the personal computer secretly a cultural antitoxin?

IS THERE A COSMIC PLAN BEHIND THE SILICON REVOLUTION? ARE UNKNOWN FORCES GUIDING US INTO A POST-INDUSTRIAL ELECTRONIC UTOPIA? IS THIS THE ULTIMATE HACKER-VISION? IS SOME FUTURISTICALLY ARCANE PLOT GOING ON HERE?

## One of the original promises

of the computer era was that by facilitating access to information, by sorting, figuring, and filing it, the computer would rescue us from the holocaust of raw data that is threatening to overwhelm our civilization—thus (here's the vision) liberating a host of playful, imaginative right-brains to restore our collective balance.

Oh yeah?

A quick look around reveals that so far it hasn't gone down that way: Just where is this new legion of poets and healers? The New Wave? And why are there so many movies where the villain is a computer?

Instead, computers seem to have drawn us into a new and lurid left-brain intoxication. Listen to the computerized mechanico-music creeping into even our Saturday morning cartoons. The march of the *Technoids!* 

Of course, there are a lot of secretaries who swear by their word processors, businessmen delighted with their spreadsheets, kids lost in their Zork Underground Empires—but in a culture already isolated from much of its own feelings, from its *mysteries* (Fig. 1)—have computers become part of the solution or part of the problem? Will MSDOS (whatever that is) lead us out of the desert? Or Unix to the promised land? *Do they speak Fortran in Paradise*?

The problem is that right-brain functions cannot be measured by left-brain tools. And any culture whose prevailing mind-set is: if you can't measure or market it, it probably doesn't exist, will have a hard time accepting that right-brain activity is not just another block of information you learn and utilize, like Calculus, or how to use a spread sheet. Nor is this process an "artistic" skill like figure drawing.

## It can't be taught. It can only be caught.

It's a whole other way of being. In fact, it's the way we were as children, then gradually learned to ignore. It's just a question of whether you can re-open the door.

And now it turns out that the Macintosh is somehow able to help open that door, to stimulate the right brain creative-intuitive process.

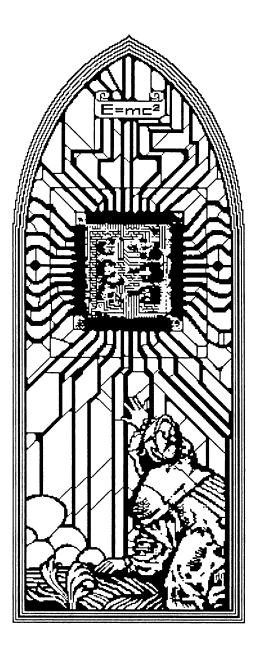
It offers a unique and beguiling environment to catch it, to exercise it, to reintegrate it with that linear, literal, minding-the-store A B C D world of the left hemisphere.

And, as everybody should know by now, a clear working balance between the left and right hemispheres is the essential foundation for any real foray into personal evolution.

Getting your act together.

Which is the first step in getting the Big Act together, what is sometimes extravagantly known as Saving the World.

Grand claims for a computer, no doubt. But then again—if there are those who have found heaven in a grain of sand, why not in a silicon chip? (Fig. 2)



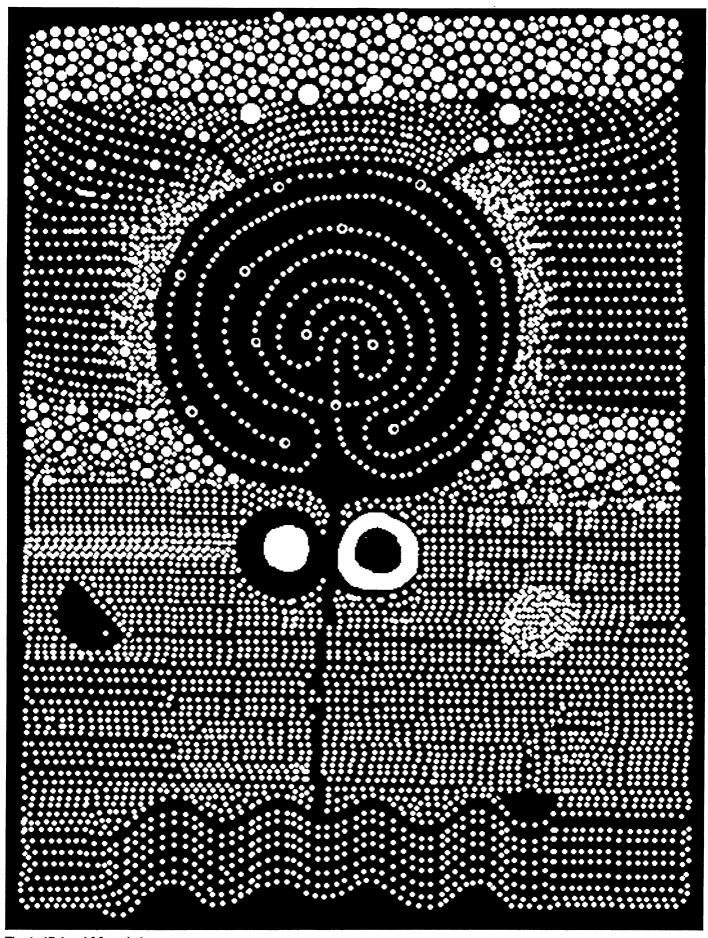
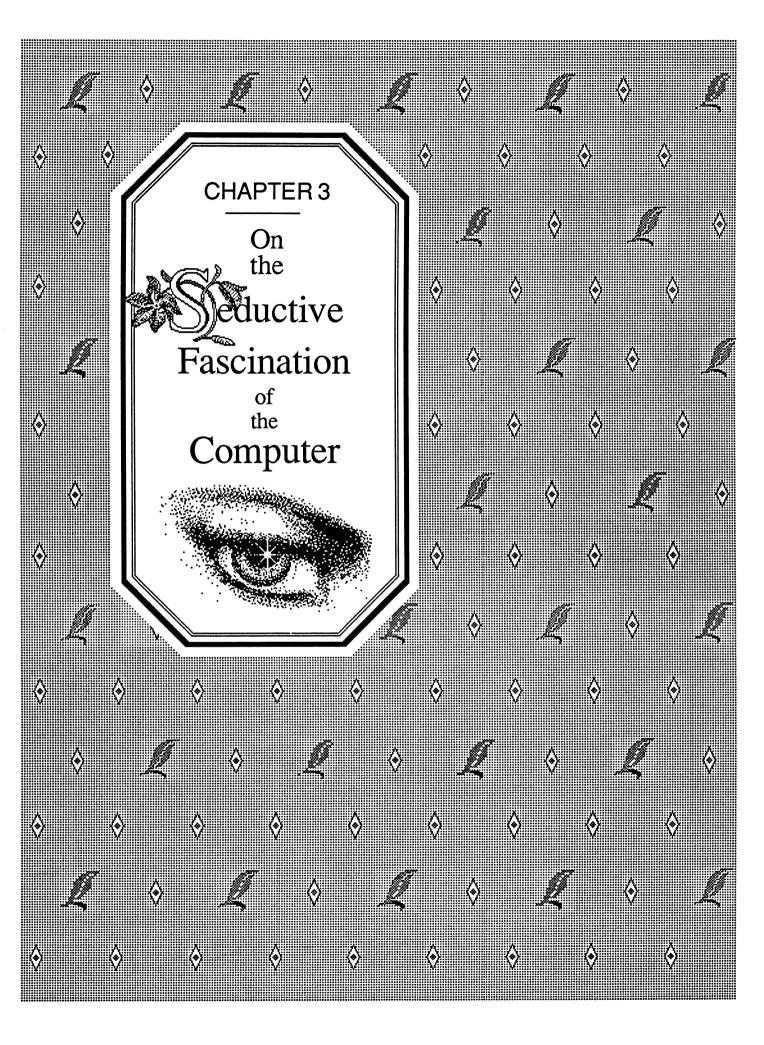


Fig. 1 (Cultural Mysteries)







### THE WORK PROCEEDED,

I noted an interesting phenomenon. I wanted to do everything on the computer. Even simple tasks that a pencil could handle just as easily. I was reluctant to turn it off when I finished a day's work. Hanging out and just macking around was much more interesting than whatever else was happening on life's agenda. A charming state.

In fact, a most curious state. And it showed no signs of flagging.

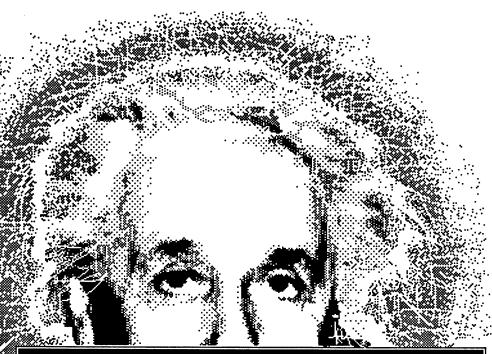
Naturally I began to reflect. What in the world is going on here? There was an intensity to this attraction far beyond the natural delight one gets from a superbly crafted tool.

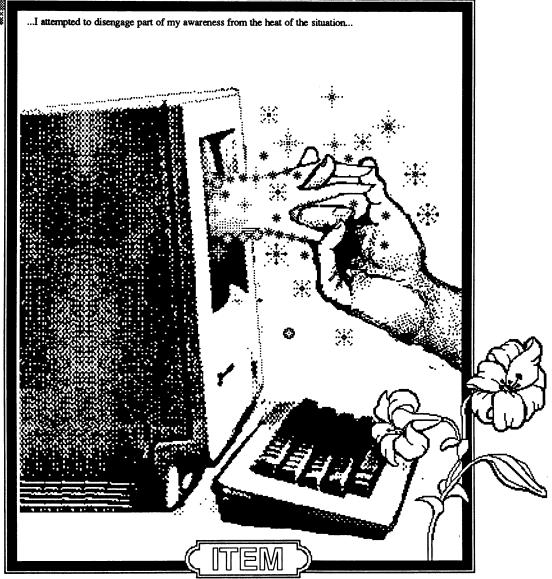
Know how when you first fall in love you want to share everything? Same thing!

W<sub>HOA</sub>—What am I saying?

Of course it wasn't the same thing. But it was somehow connected. Only in this love story one's beloved didn't have a heart of gold...the heart of one's beloved was a lace of delicately programmed electric charges, and they were dancing eagerly to my every desire.

We were definitely an Item.





#### SPOOKY.

As the affair continued, I attempted to disengage part of my consciousness from the heat of the moment and witness it from a dispassionate space.

We mostly know this process as Woody Allen's ghostly double sliding out of bed and cooly watching his love—making with Annie Hall from across the room. But not to worry. That's just the neurotic flip side of a valuable faculty: the objective observer, the Witness.

t dawned on me that the computer had technologically isolated and enhanced one particular function of human intelligence—and now was feeding it back to me in a new and attractive package.

82

Could it be that this symmetry between computer-mind and my mind was setting up a resonance—a subliminal attraction?

Let us elaborate on this argument. And if our train of thought is a little Out There—well, look at it as a good excuse to drum up some interesting graphics.

Of course, when you're presenting any notion that's philosophically shaky, it's always good policy to call upon a recognized authority. Therefore...will the esteemed French logician please take the stand?

"Merci

Now then, is it not so that the basis of the human intellectual apparatus is our ability to make the simple distinctions? *This* or *that*, eh? Or, for examples:

I think  $\leftrightarrow$  I do not think

 $lam \leftrightarrow lam not$ 

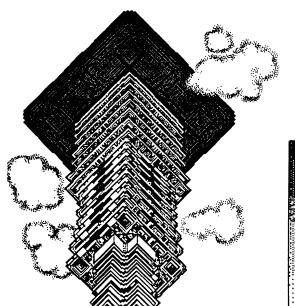
I want  $\leftrightarrow$  I do not want

Vanilla ↔ Chocolate

Vanilla plain  $\leftrightarrow$  Vanilla swirl

...and so on, and et cetera. Le Binary Boogie. Is it on or is it off! Comprenez vous? Oui?... Non?"





#### T E C H N O B L I S S.

Illental Floss

Then, in ways we have yet to fully understand, the "intellectual apparatus" constructs from this simple foundation that monumental edifice of everincreasing complexity we call *logical thought*.

Now since the little silicon brains of our computers are nothing more than vastly complicated grids of microscopic on-off switches, this is their turf too. They go bananas, organizing, duplicating and elaborating these logic patterns to the point where a sizeable chunk of the world's endeavors has been converted into unimaginably vast (but neat) arrays of binary code. And it can all be accessed and manipulated in microseconds. Wow! Order out of chaos!

hen the human intellect glimpses the razzle-dazzle perfection of its electronic counterpart, it just about loses it. 'Awesome!" cry the synapses; "At last," echo the neurons, "here is that precision we've but dreamt of! And the Law. Yea, here resides Knowledge, Information, Harmony, Power, Data Control! More than a tool...AN ARTIFICIAL **INTELLIGENCE."** 

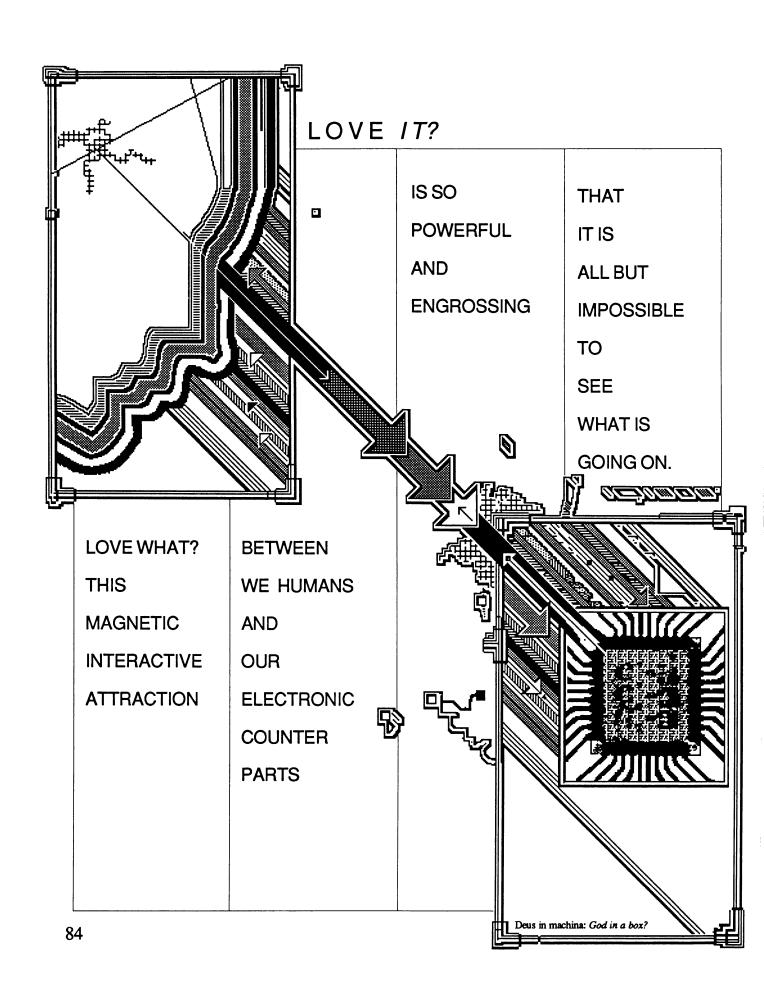
Not only helping us along with our tasks, but cleansing all that icky analog fuzziness from the murky reality system we're stuck with...A MENTAL FLOSS, as it were. Log on!

Computer consciousness: When you get into it, it gets into you.

echnobliss.

Stimulating the brain by ELECTRON-ICALLY SIMULATING the brain.



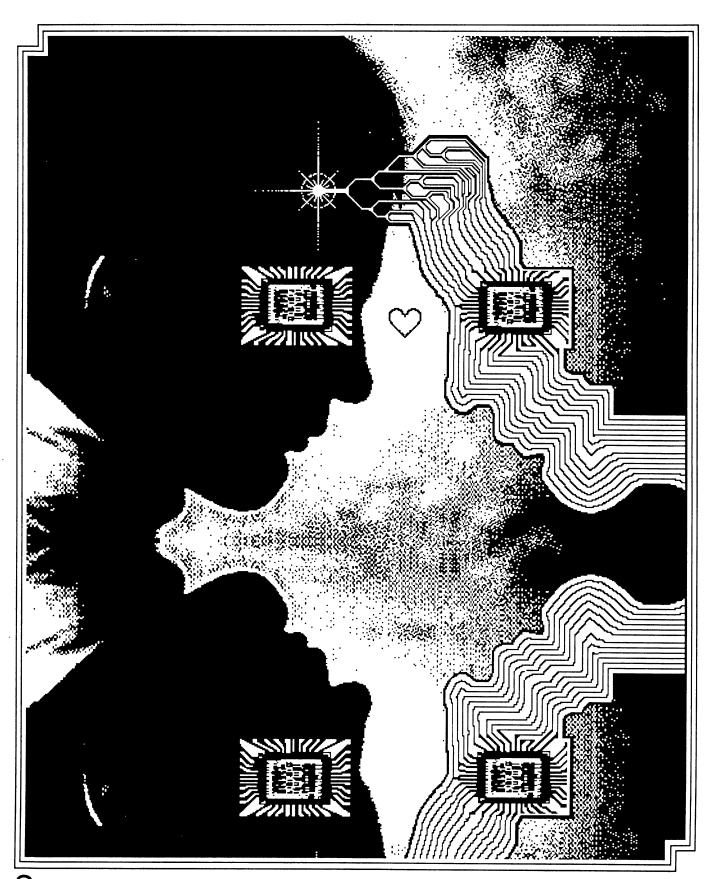


## THERE IS INDEED



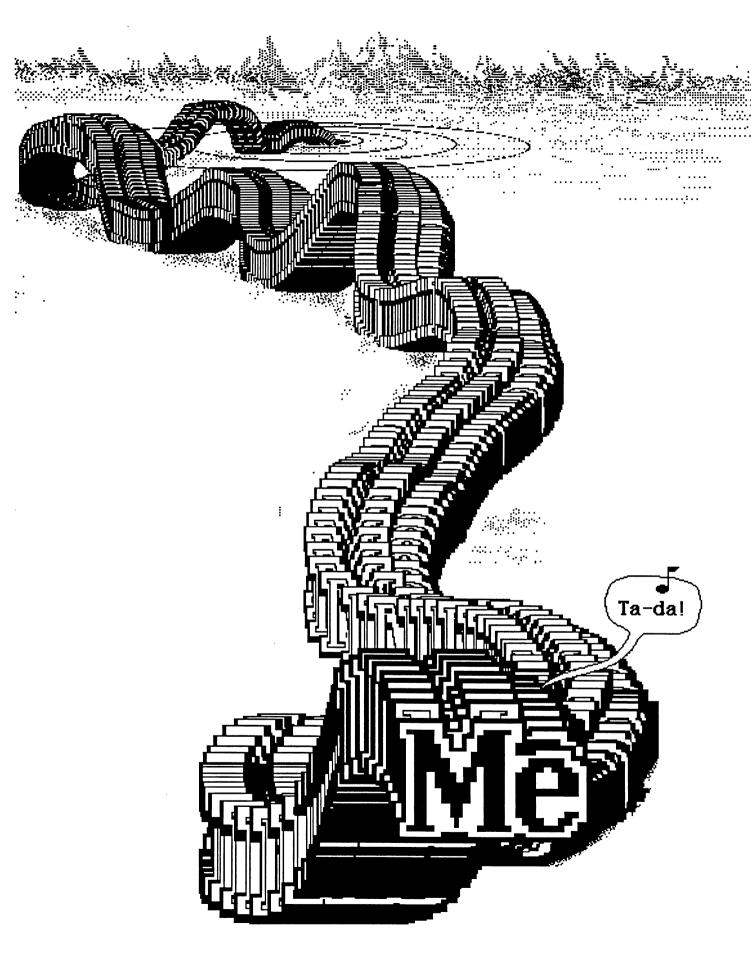
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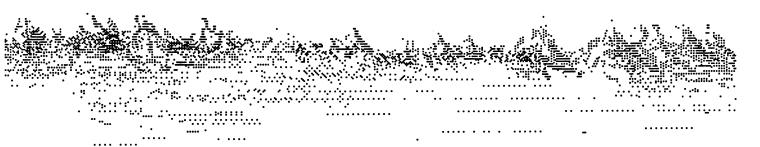
A FEARFUL SYMMETRY AT WORK HERE



 $S_{\text{timulating the brain by ELECTRONICALLY SIMULATING the brain.}}$ 

	exercise 1.01 Self-referential vector analysis
problem	LoveWhat?
proposition A	A careful examination of binary devices reveals that the computer is an idealized, upgraded version of one isolated element in our mind's own primary operating system.
proposition B	A careful examination of this <b>complex system</b> reveals that one of the most deeply rooted of our <b>ego algorithms</b> is a curious propensity for devising new methods of looped, self-referential feedback <b>of admiring ourselves.</b>
conclusion	Do you catch the drift? Could it be that what we have here is simply the so-called <b>biocomputer mind</b> fascinated by its own <b>enhanced reflection?</b>
	Why not? Let's admit that beneath the 'seductive fascination' we may well find a secret thread of digital narcissism running through this whole relationship, i.e., the intellect hopelessly entranced by the well-packaged feedback of its own wonderful workings!
	Ergo, when a book (such as this) purports to be an enthusiastic exploration of a computer, what might we easily conclude is the real (if hidden) subject?

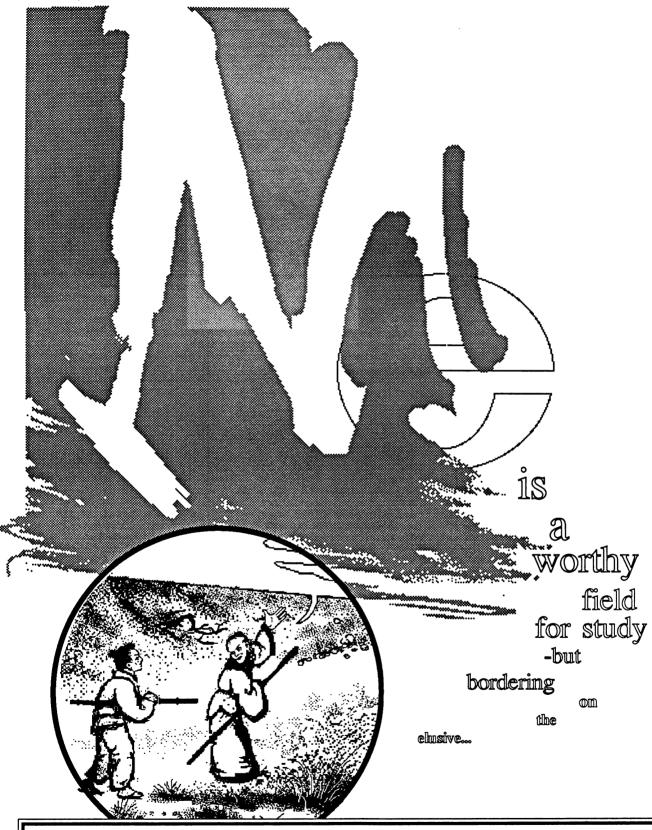








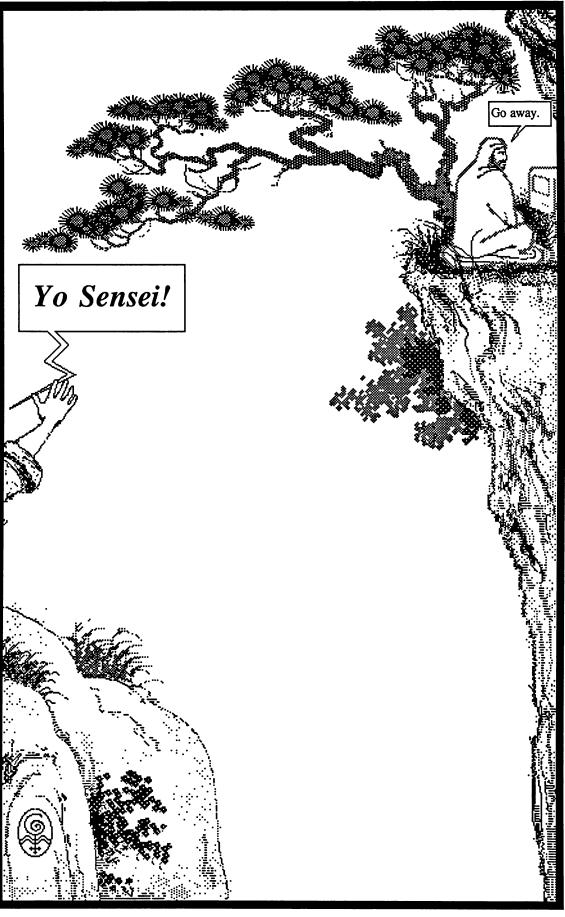
## "Truly has it been said that this

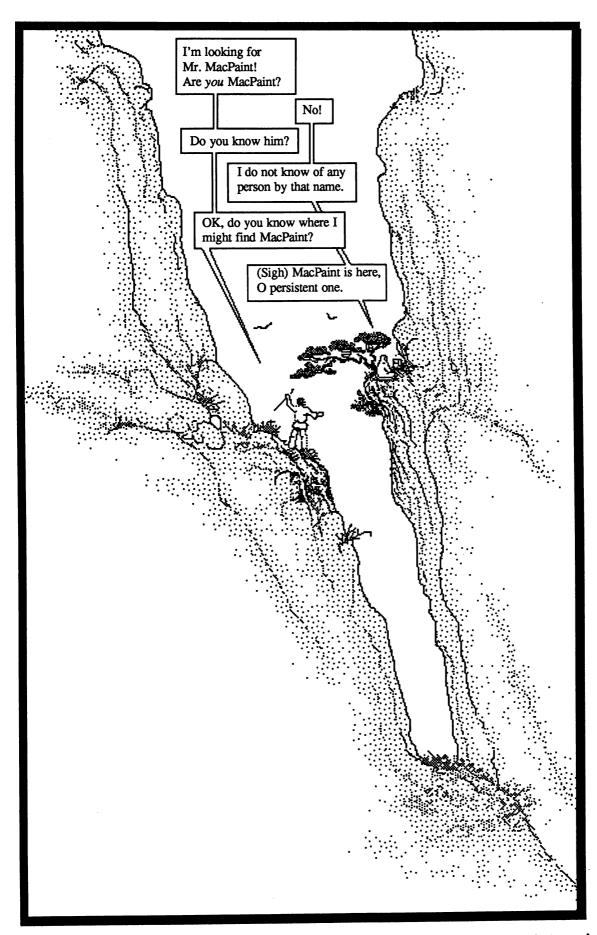


"More elusive is this 'Me' than the fabled wild ox, O honorable youth, and forever will it evade those who insist on concrete answers in all their studies. Yet what pursuit could promise greater reward? Thus we in the Zen trade

often adopt indirect methods in order to point the way. This being the case, let me say (since we are in a book about the Macintosh) that one who could search out and find MacPaint will have also grasped the tail of the mysterious 'Me.'"

Long frustrated at every attempt to unlock the secrets of existence, the youthful pilgrim seizes upon the quest to find the mysterious MacPaint as his last hope. Alas! wherever he goes, the name is met only with dumb stares. In desperation he vows to seek the aid of the legendary Eight Immortals. Ragged and hollow-eyed after years of wandering, he finally discovers the last of their number surviving high in the remote and craggy mountains of Koshu. Respectfully he salutes the venerable master...





Hey, you got a little TV set up there! Neat! Is that MacPaint?

This is a computer, not a television. MacPaint is neither a computer nor a person—although it is said by some to have a personality. MacPaint is a program on the computer, and it is being used to create most of this book by a person.

Program? Oh yeah, I see now. Like a TV show, right?

Wrong. Pay heed and attend, O Impetuous One. A program is the sum total of an assortment of related features and capabilities that allow a computer to do something. In this case, create interesting visual images.

So features and capabilities did all these pictures, like the one we're in now?

No. By themselves features and capabilities can't do anything. Think of them more as a set of responses that a computer can give to stimuli from the outside world—in other words, to whoever's using the computer.



Ahh. Where do these MacPaint responses come from? They're coming from a 68000 Motorola microchip. So I got it! The Program is a microchip, hey? Wrong, O Infinitely Dense One, the microchip is only a tool that MacPaint needs to interact with the world. Oh... But what makes the chip give these MacPaint responses? A pattern of energy sent from a disk temporarily sets up thousands of little on-off switches on the chip to create the responses. Then the disk...no, the pattern of energy must be the program! Well-yes and no; both and neither. It's not so simple. For example, it is conceivable that some brilliant programmer might well have all the lines of MacPaint code memorized. (It really is just an aggregate of ideas.) Then it would be a very different pattern of energy inside his head. Or it could be written down on a piece of paper. But let us say that's what it is: a particular pattern of energy. But only for the moment. For the moment! Waddya mean—it changes?

know for sure what it can do." "It changes," mutters the old man, "No!" growls the other, "Not at all. Patterns are made, pictures are drawn— "everything changes." A silence. He speaks again. "Some say MacPaint was born on Feb. 23rd, things get done—but MacPaint itself is hardly the doer." 1984, and has been growing and upgrad-"What?" ing ever since. But MacPaint floated "MacPaint is only an instrument. A around long before then as a jumble of tool." disconnected ideas. All MacPaint really is then, is some possibilities The young man throws himself down that come into being when all these on a rock in dismay. "Hey, everything seems turned around again. This is ideas are temporarily united by a minute getting too tricky for me... energy field inside a more stable host "Good! Good! What is day to the device we call a computer.' Our pilgrim scratches his head. "Weird. The more you think about MacPaint, the less there is to think man of wisdom is night to the ignorant. Answer just one question now, and it should all become clear: who is this ME?" about. Kind of elusive. At least we

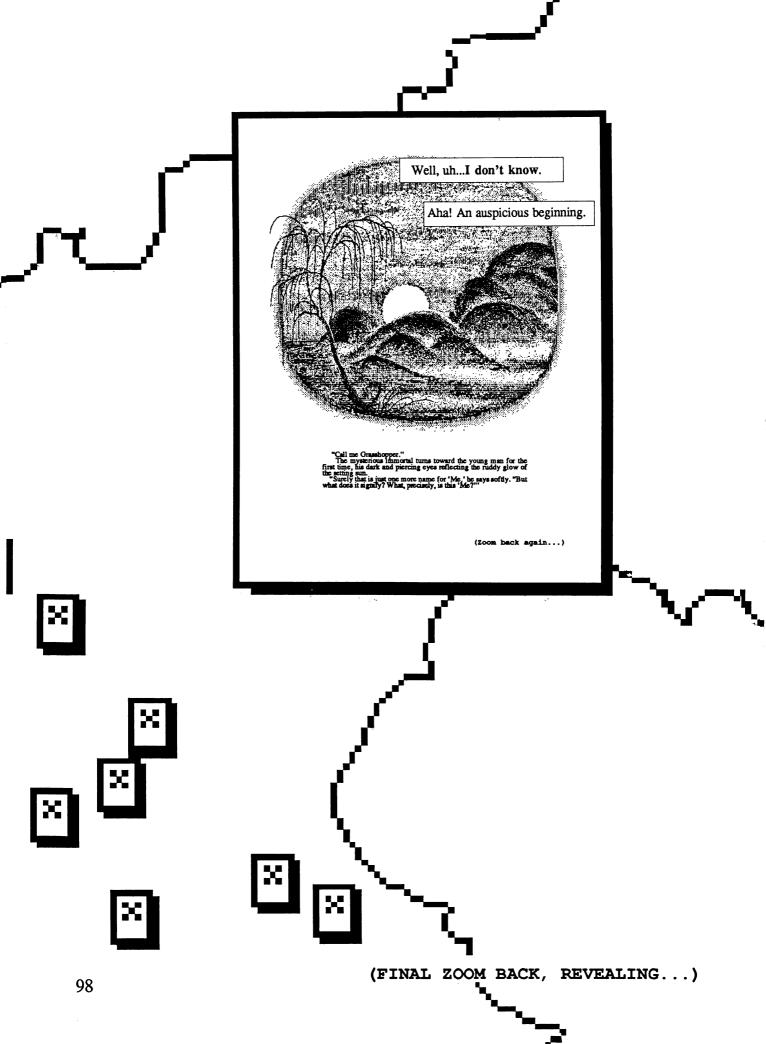


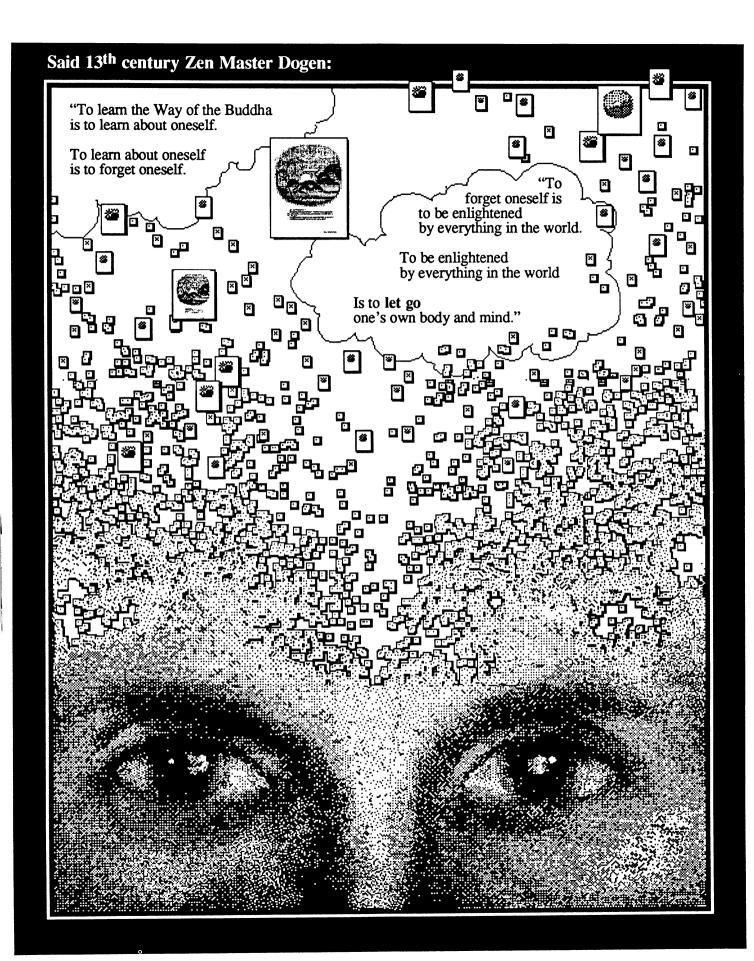
"Call me Grasshopper."

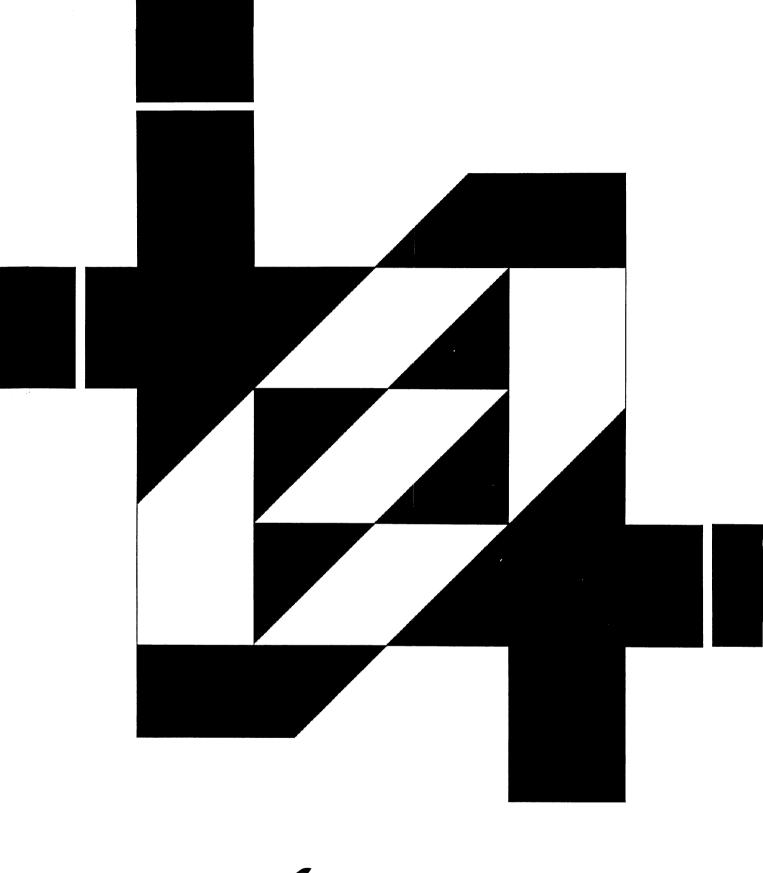
The mysterious Immortal turns toward the young man for the first time, his dark and piercing eyes reflecting the ruddy glow of the setting sun.

"Surely that is just one more name for Me, he says softly. "But what does it signify? What, precisely, is this Me?"

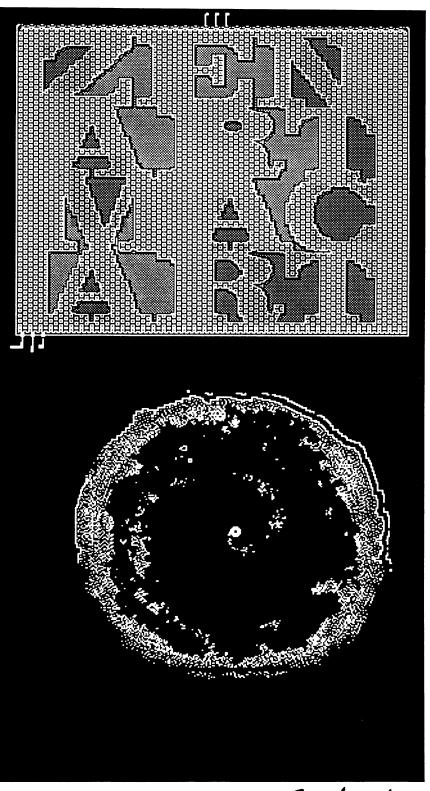
(ZOOM BACK AGAIN...)





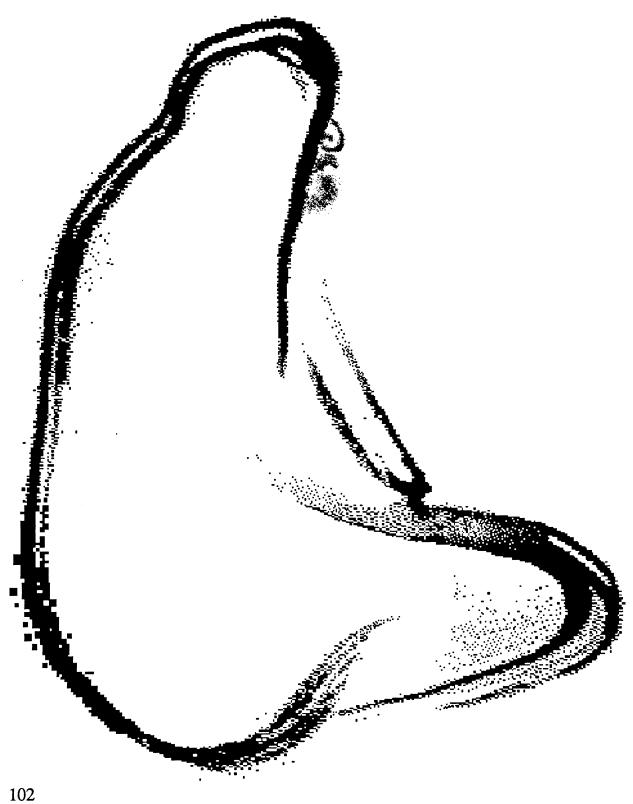


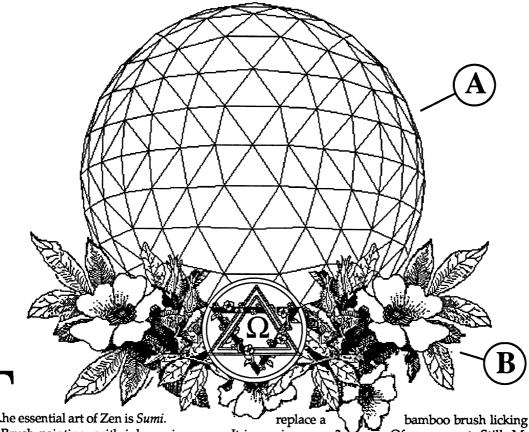
c h a p t e r



Zen Art Mac Art

# BLANK CANVAS EMPTY MIND





Brush painting with ink on rice paper. It is wonderfully flexible, capable of both the most robust and delicate of forms. But what makes it most truly *Zen* is the clarity with which it conveys the mind of the painter. The first stroke is the final stroke; there are no touch-ups.

The Zen painter approaches his art as a part of his practice, as contemplation: Canvas blank, mind empty.

This art conveys the unity of Being and Action that leads to enlightenment. To *freedom*.

The master Hogai was in his studio with some pupils. Clouds came up and it began to rain. The street outside was deserted, with not a single passerby. The master and his pupils fell silent, listening to the sound of the downpour. A long time went by. Suddenly a man passed by the gate singing in loud voice.

"There is an interesting man," said Hogai turning to his pupils. "Do you understand his frame of mind? If so, that is how you should paint!"

But we are here to explore the more binary possibilities: can a mouse and a cathode ray tube

replace a bamboo brush licking across rice paper? Of course not. Still, MacPaint always has a few surprises up its sleeve.

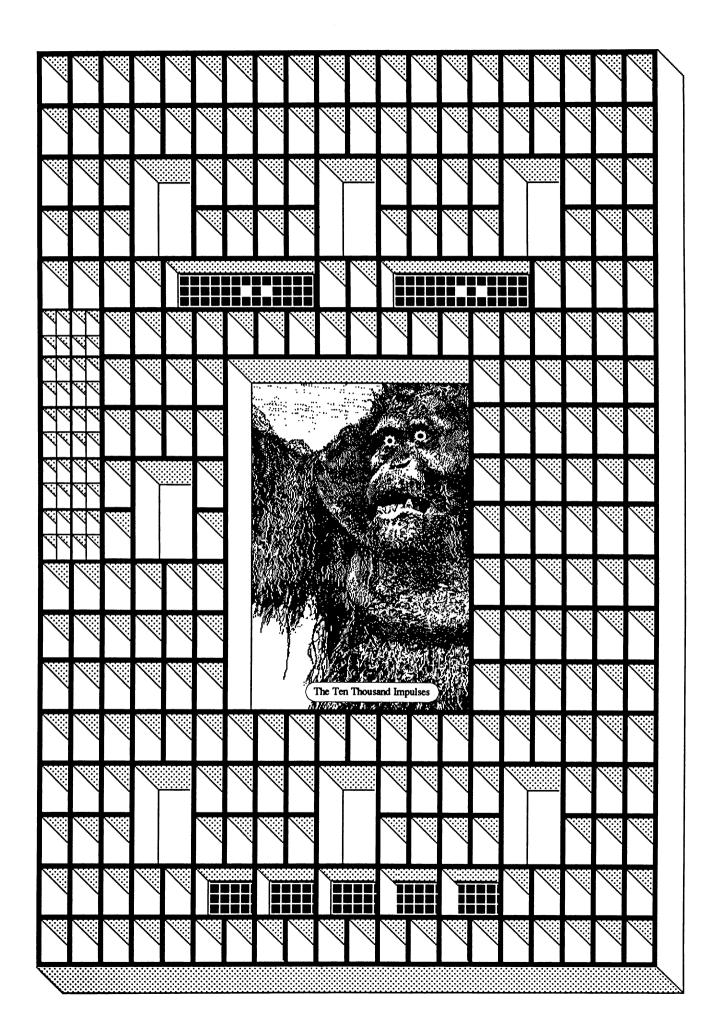
It doesn't take long to realize that no matter how much you play around with SPRAY PAINT, or doodle with pixels, as far as subtle shading and detail goes, the Mac will never equal a good old Mongol #2 1/2 lead pencil.

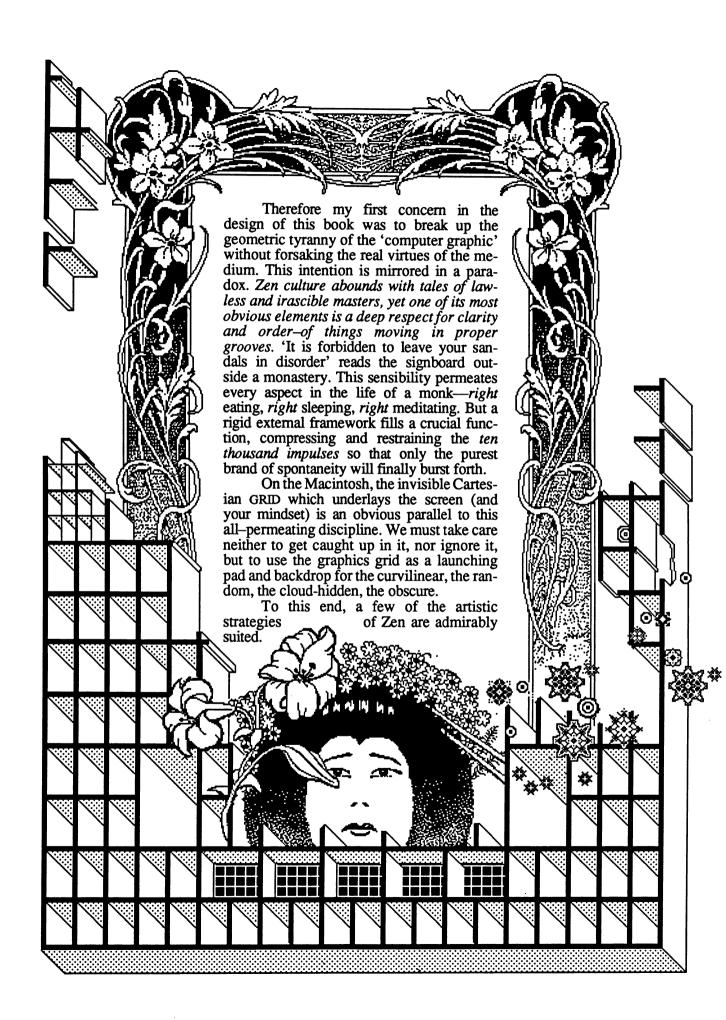
But the Mac is extremely precise. This is great for architectural drawings and crisp layouts, as well as hardedged new-wavy stuff. The latter is fine if you can take it. I can't beyond a certain point. Too glossy and rigid and machine made...in other words, lifeless. (Is this its appeal? The sexiness of death?)

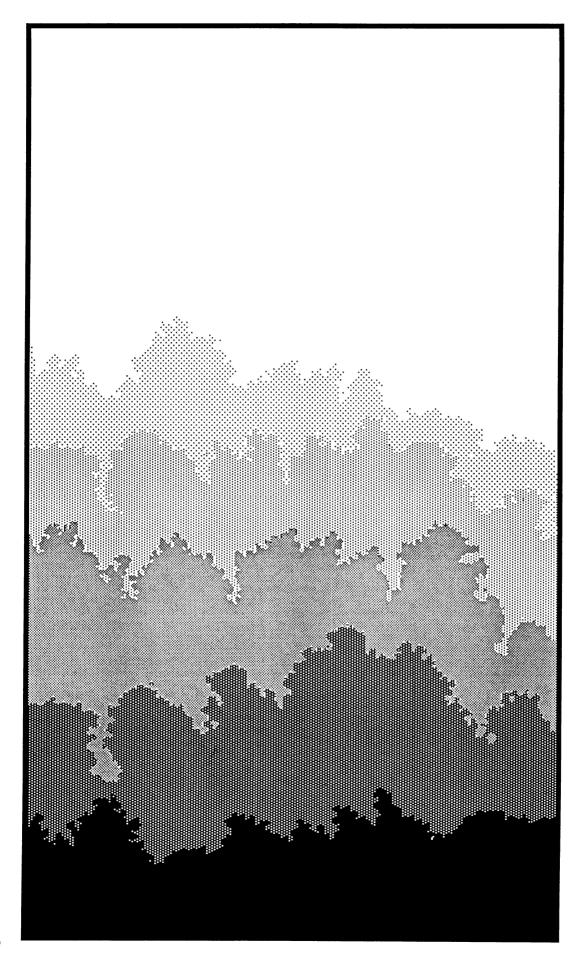
Lots of designers are a good distance down that industrial highway already; let someone else go the extra kilometer with the Mac.

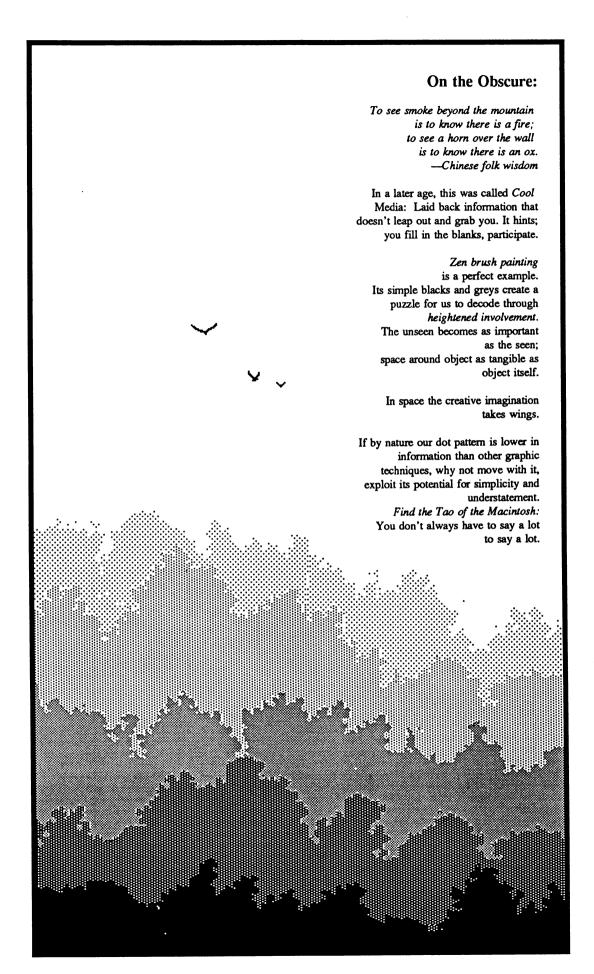
The real challenge for me is to flirt with the flawless geometry (A) of computer graphics, while breathing some life (B) into them from a totally opposite direction...

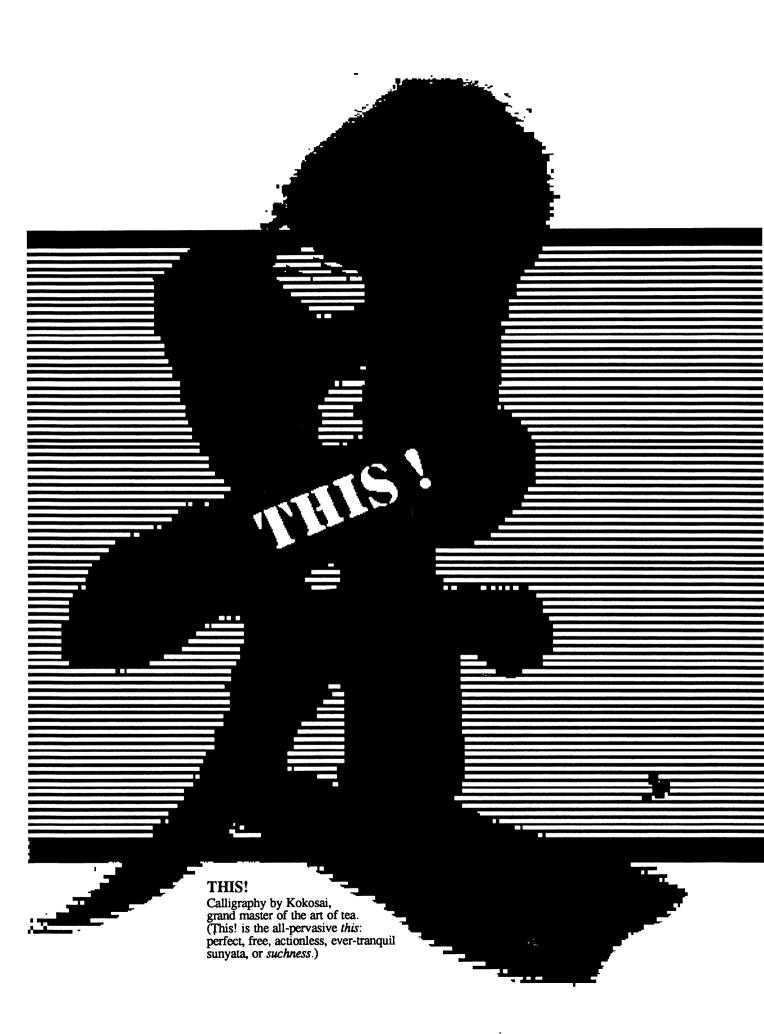
I always understood that the *Union of Opposites* ( $\Omega$ ) is what's really happening on the cutting edge, anyway.









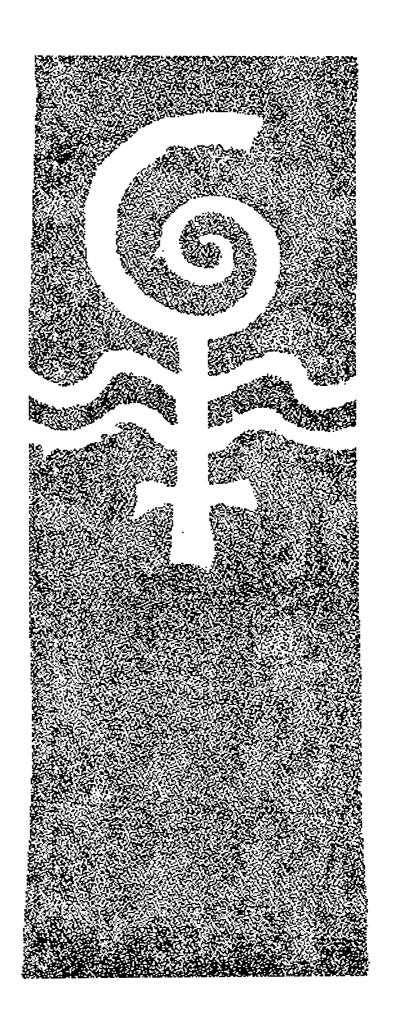






WABI AND SABI ARE PRINCIPLES CENTRAL TO THE AESTHETICS OF ZEN AND PARTICULARLY THE TEX CEREMONY. SEE ORIGINALLY THESE TERMS MEANT AN INEXPRESSIBLE, QUIET JOY HIDDEN BENEATH POVERTY.  $\Delta$ BREAKING WITH ARTIFICIALITY. WEEKE THE SPIRIT OF SCIENCE WOULD LEAVE NO MYSTERY UN-RAVELED, WASI AND SASI WOULD COURT A FEELING OF OBSCURITY AND HIGHER PURPOSE. IMPERFECTION BECOMES & FORM OF PERFEC-TION, SEESON IN PRACTICE, ARTISTS STROVE TO CREATE A DULL SHEEN OF ARCHAIC IMPER-FECTION AND INTIMATIONS OF VENERABLE OR POETIC HIDDEN MEANINGS. A RAKU TEA CUP. PLAIN AS A STONE: A THATCHED HUT IN THE FOREST - SLICH THINGS ARE ADMIRED NOT ONLY FOR THEIR SUBTLE SIMPLICITY, BUT FOR ALL THE ASSOCIATIONS THEY CARRY OF A SPARE. TIMELESS. INWARDLY RICH PROACH TO LIFE M WABI AND SABI STAND IN ALMOST TOTAL CONTRAST TO THE SLICK CON-VENTIONS OF MODERN COMPUTER GRAPHICS. BRINGING THESE OPPOSING OUTLOOKS TOGETHER WOULD BE A MOST REWARDING EXERCISE.





# On The Heart of the Art of the Mac

All the preceding discourse has been an exploration of the kind of graphic imagery most organic to the Mac and pleasing to the head and heart. Which is fine as far as it goes, but the real **creative** 



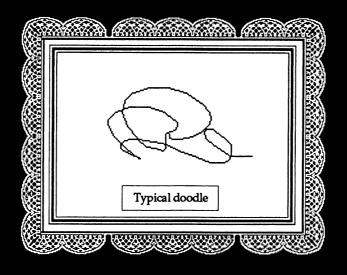
thumbprint of the Mac is found not in the creation of images, but in the manipulation of them. Image processing! This is a familiar dance to devotees of word processing, who already know how the unimpeded manipulation and rearrangement of words allows almost anyone to enter a whole new

dimension of creative writing.

It's the same thing here. Just as an author doesn't feel obliged to reinvent an alphabet from scratch, so the real business of the (if I may borrow the term) **imagewriter** isn't really to **draw** images.

Like letters, images are just the raw material. Grab them any way you can. Use clip art for a start. The ideal setup (I think) is a digitizer hooked up to a home video camera, like I have. Or a Thunderscan—whatever—even draw if you can. Or can't. It's sufficient just to doodle. Just get something on the screen. Anything. Then do things to it. Squeeze it, stretch it, chop it, flop it, outline, repeat; combine it with words, Mac it around until you have something that ...says it.

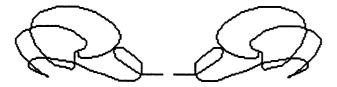
# ATYPICAL DOODLE.



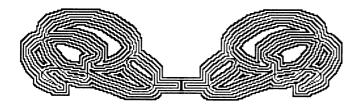
Now,
for
a
spontaneous
e
unrehearsed
illustration
of
this
process
in
action.

Let us start with a typical doodle.

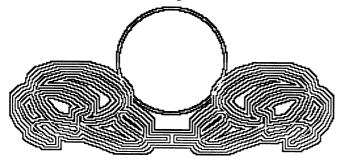
Let's open by duplicating it and then FLIP HORIZONTAL.



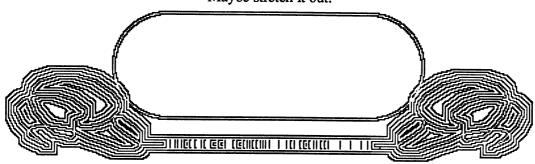
Hit TRACE EDGES a few times.



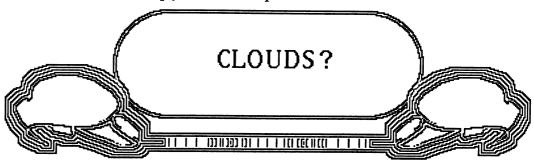
Drop in a circle and trace again. It's a Rorschach test. See anything?

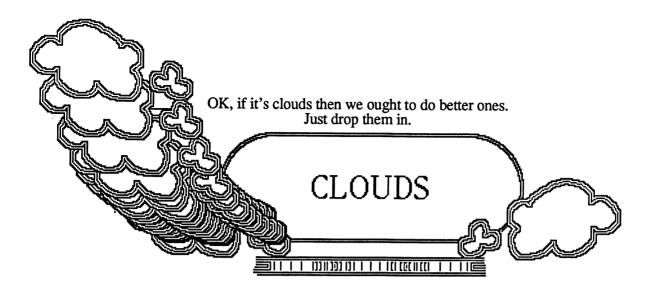


Maybe stretch it out.

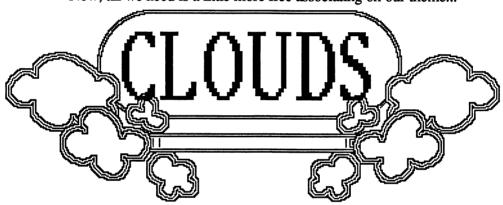


Let's empty out those lumps now. What do we have?





Now, all we need is a little more free associating on our theme...

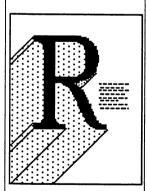


...to bring it into focus. So!



## On Tenacity

But enough of this frivolity. Let us get down to some serious designing. These rough graphics are called 'thumbnails,' little idea sketches that you quickly whip off to get a productive train of thought going. Here your speed





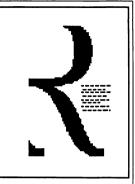
and
flexibility,
your power
to duplicate
and
manipulate
really pays
off.
Use it to do
as many
thumbnails as
you can. And
don't stop at
the first good
idea.



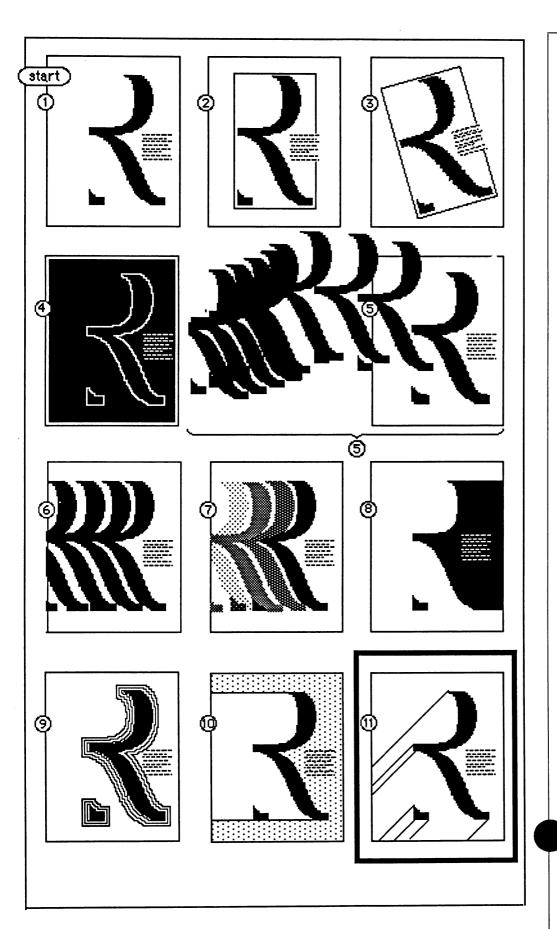
Always do a few more.
You never know when a yet brighter spark may pop out of some final, dashed—off idea.



When you're finally satisfied that you've run your course, go back, pick up the one that seems to say it the best. And expand on it.



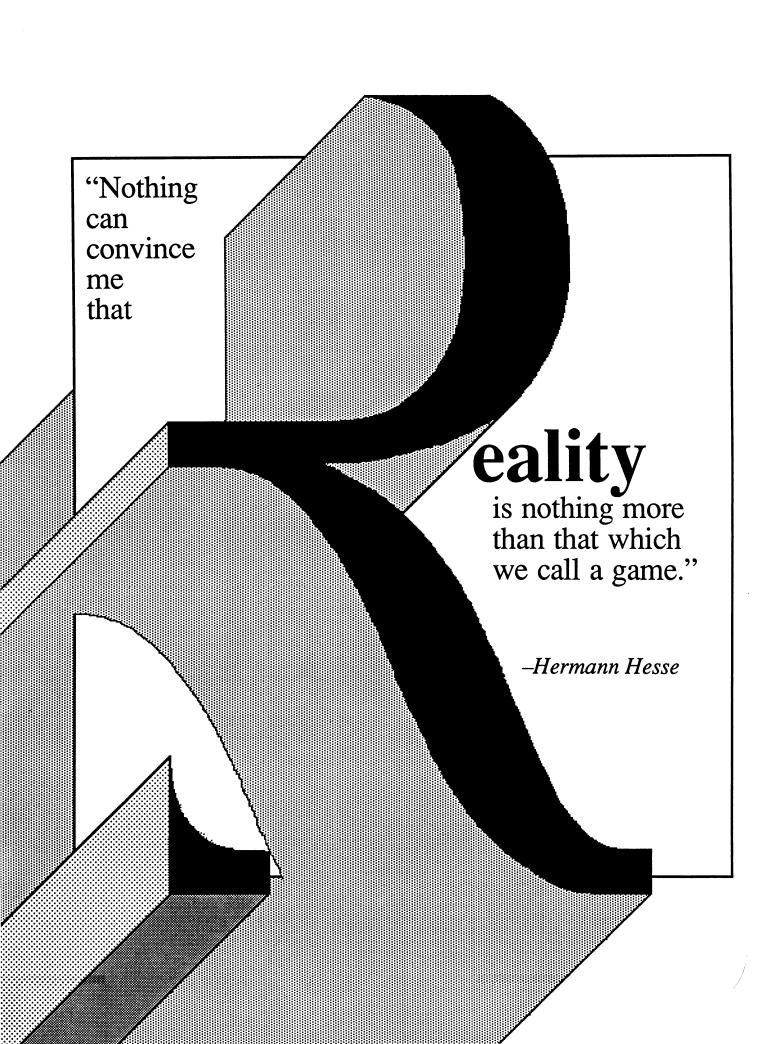
I liked this last one here.



It can be a simple process of elimination to track down your final idea. Just keep copying the basic concept and put it through every possible permutation and refinement you can think of.

Keep going until one finally delivers the goods.

Then do it up.





### **Tenacity**

#### of Purpose

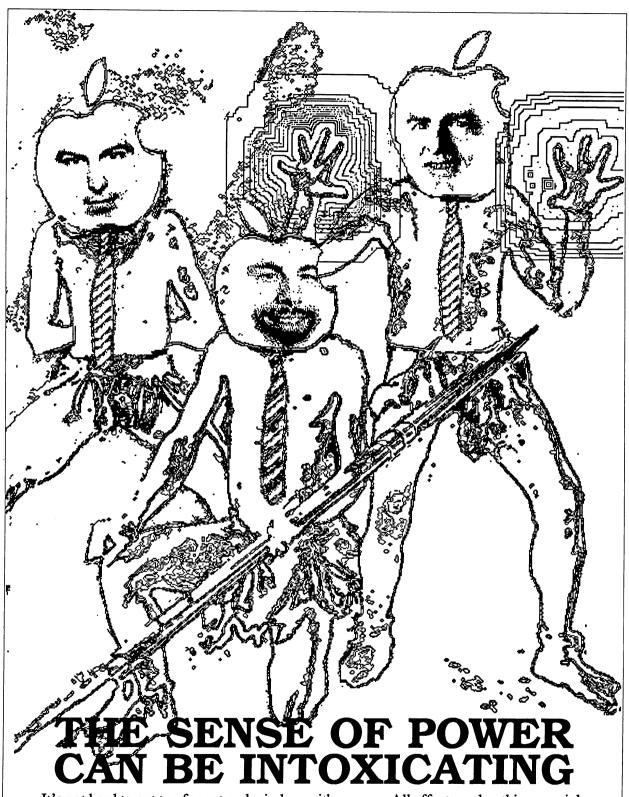
The study of Zen is like drilling wood to get fire. The wisest course is to forge straight ahead without stopping. If you pause at the first sign of heat, and then as soon as the first wisp of smoke arises, even though you go on drilling for years

you will never see a spark of fire. My native place is close to the seashore, barely a hundred paces from the beach. Suppose a man from my village is concerned because he does not know the flavor of seawater, and wants to go and taste it for himself. If he turns back after only a few steps, or even if he retreats

after having taken a hundred steps, in either case when will he ever know the ocean's salty, bitter taste? But, though a man comes from as far as the mountains of Koshu, if he goes straight ahead without stopping, within a few days he will reach the shore, and the moment he dips the tip of one finger into the sea and licks it. he will instantly know the taste of the waters of the distant oceans and the nearby seas, of the southern beaches and the northern shores, in fact, of all the sea water in the world.

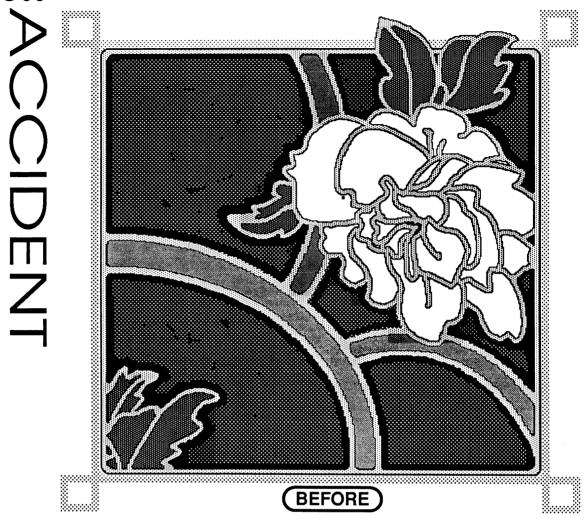
> Hakuin (1686-1769)





It's not hard to get too far out and wind up with a mess: All effects and nothing special.

# ON THE SERENDIPITOUS



May I bring your attention to the graphic on the left (*Before*), once destined to be a chapter heading. In its final polish, I went to erase an unwanted squiggle in the flower with a kiss from the **paintbucket** dipped in white. Alas, the squiggle was touching a line, the line touched a border, and the border a large block of pattern. Surprise! In a flash a whole section of the picture disappeared! (*After*)

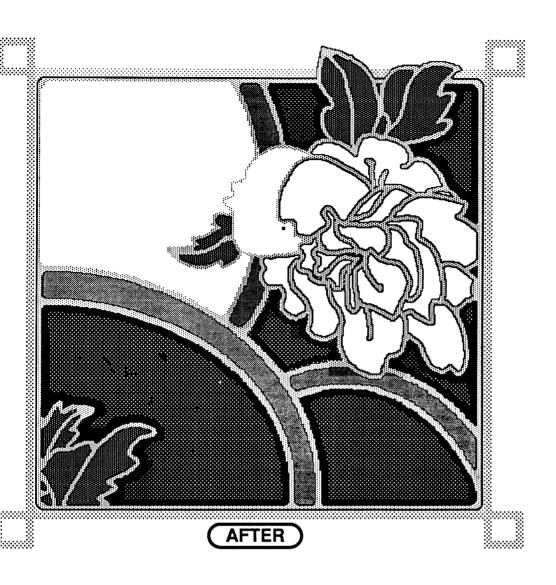
In these situations, of course, one praises God and hits the **Undo**, returning everything to the moment before the crime. But wait, thought I. Let

us take another look at that mistake.

Before was OK, no doubt, but this After was a fresh stroke. It conveyed a sense of the unexpected. It was pretty good.

And it was something I never would have thought of doing, particularly having so carefully filled in the missing portion.

Another Zen Story:



A friend of the famous tea master Rikyu wished to impress him. He purchased a beautiful and costly ceramic tray for the ceremony and invited Rikyu to tea. The tray did not elicit any comment from the master. The owner was so downhearted afterwards that he threw down the tray, breaking it into many pieces. A friend of the owner later collected the pieces and cemented them together so that the cracks became a design of fine gold lines.

In time the friend thought to invite Rikyu to

tea and use the tray again.

Rikyu's keen eye at once detected the old

"Fine," he said, "Surprising! How truly now this tray reflects the spirit of Zen!"

Surprising.

Righto. While in theory there is absolutely nothing unpredictable in the way the Mac executes its artistic labors, in real life, as we saw, it takes no more than a truant pixel to send things skidding off the road—and into the Zen of the Controlled Accident

Or, as Ornette Coleman, or somebody, said,

"Jazz is just riffing on your mistakes."

Learning to riff on random input can endow not only your graphics with a new life, but your life with a new dimension. It's a skill central

to the creative process and to awareness.

I first became aware of its possibilities some years ago. I was still in high school and working as apprentice to a Hungarian designer named Eva Zeisel. Nothing got taken for granted around Eva. The most commonplace things—a dead leaf, a dishrack, a clothespin—anything could suddenly become the subject of analysis and delight. Even the English language yielded hidden nuances of meaning when she rearranged it in her Central European accent. She had, I believe, an unspoken certainty that each moment and everything it contained was important. Once this conviction is established, it's a simple matter to discover how and why.

In retrospect I realize there was a bona fide transmission happening, but at the time I just thought it was really fun to hang around this intense woman, explore her huge house, and watch how she played out life's drama with such

unusual, dashing strokes.

I remember the morning she had a major presentation of a dinnerware setting to a large corporation. Eva was wavering between two final choices. A rattle at the kitchen door. Who was it? A neighbor, or perhaps the trash man, I don't remember—it didn't matter. Up she jumped and dragged him over to the two plates.

"Which one do you like the best?" she demanded. (The most important design judgment

of the week.)

"Huh? The plates? Uh...that one."

"Of course! Ah, but you are a genius! That's

the one then, pack it up, let's go."

Or another day, a ruined silkscreen, left uncleaned and partially clogged, would be snatched from the junkheap, held up to the light. Aha! we must make some prints from this one. The result might well be a mess—or fiddled with in the right way, develop into a whole new line of decorations.

We grow up, the cement sets, and we become



"...Tuning in to potentially meaningful information winging in from all quarters." a closed operating system, programmed with a limited but comfortable set of notions. We respond to this inertia by becoming curators in our own musty archaeological museum, endlessly polishing and cataloguing our precious psychic artifacts, rearranging them into new exhibits.

Meanwhile, while we're rummaging around the warehouse, outside, that whole other thing keeps right on happening: each instant

always new, reborn, surprising, fresh.

The universe is indeed spectacularly uncontrolled, spontaneous, and full of accidents. But harmonzing with this and giving expression to it is not as simple as slopping paint across canvas or generating "music" from random numbers. The accidental is always seen in relation to what is ordered and controlled: "The Dark Yin is never without the Bright Yang."

The MacPaint program, once you get to speed in it, becomes a microcosm of this arrangement, providing both an "ordered and controlled" environment—and a constant supply of unexpected graphic surprises within it. We can undo them, to our diminishment, or en-

courage the flow and pan for the gold.

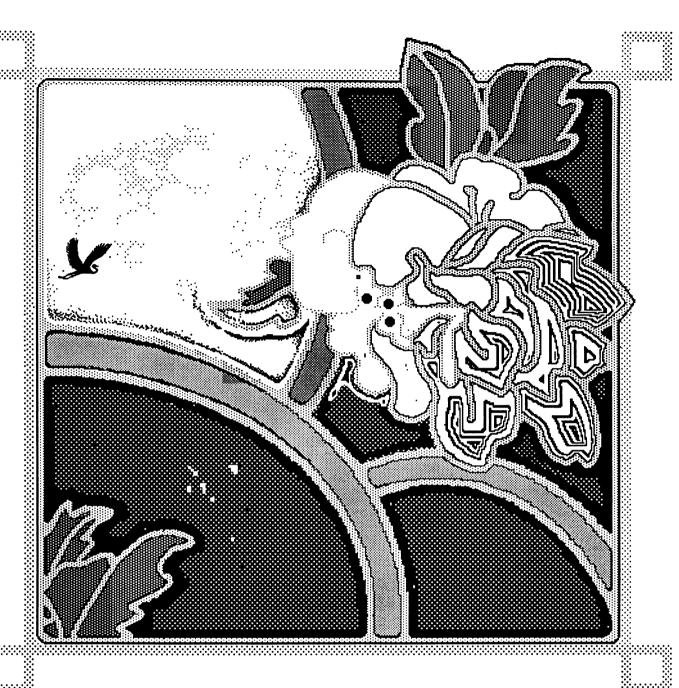
There is a great learning here. For many it's a whole new world, not only of finding pertinent mistakes on the computer, but tuning in to potentially meaningful information winging in from all quarters.

With practice, a part of our active intelligence gets permanently allocated to quickly scanning all unexpected and accidental data right on the fly, rendering a brief yes/no/maybe assessment and moving on.

To program an open channel to randomized input like this, at least a handshake acceptance with synchronicity is neccessary. Synchronicity is the original unified field theory of events; an understanding that at every instant an underlying, invisible interconnectedness runs through everything around us. Everything is on cue. "Coincidences" are merely glimpses into how it is all the time, if we only had eyes to see. Tune into synchronicity and everything is potentially grist for the mill.

Well not everything...there's still a lot of chaff that blows by too. A proper synchronicity scanning subroutine needs a well-tuned Relevancy Filter. Opened too wide, and your original goals are soon obscured by the beauty of a million interesting alternate possibilities. Everything is relevant, but nothing gets done. Save this mode for the weekends.

But squeeze the filter level down so low that no accidental input seems relevant and you're right back where you started. Ho hum.



#### Back to the Mac.

I touched up *After* here and there to bring out the offbeat feeling & saved. Having an electronic artistic collaborator given to the unexpected has definite virtues if you play it right.

#### **EPILOGUE**

Alas, the more I looked at After the more I knew Before was really better suited for what I had in mind. Sometimes a graphic should simply be competent and simple, like punctuation that gets you from here to there. More defeats its purpose.

So what to do with my happy mistake? What if the two pieces were side by side?

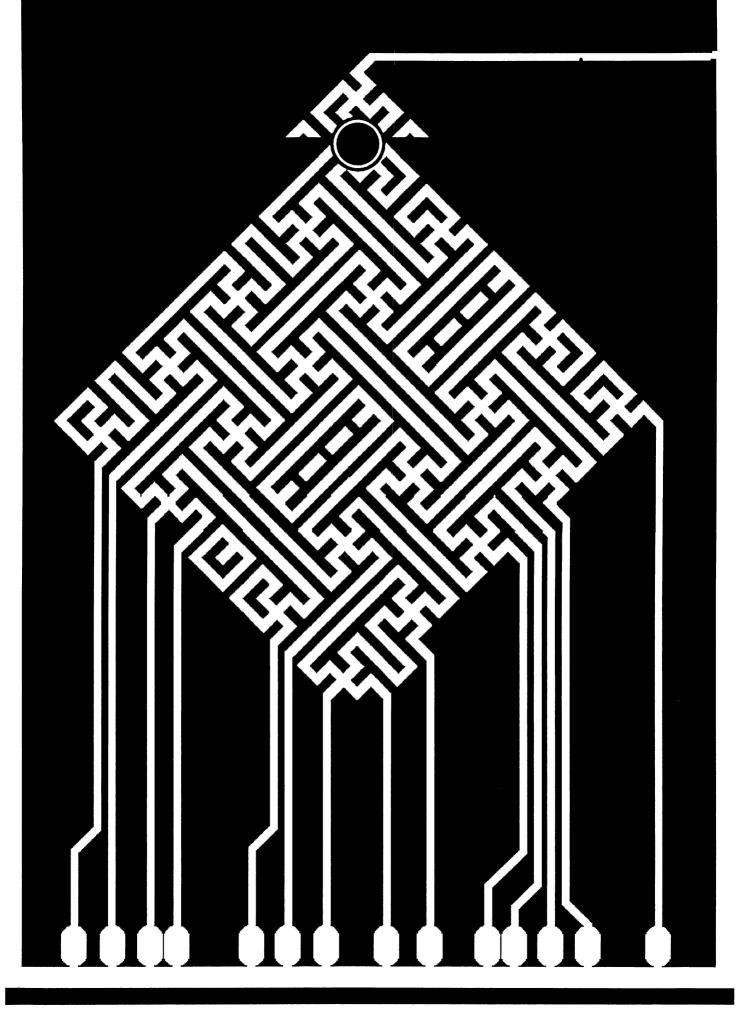
I set them out on facing pages, and an altogether new entity was begotten: Before and After together. How obvious.

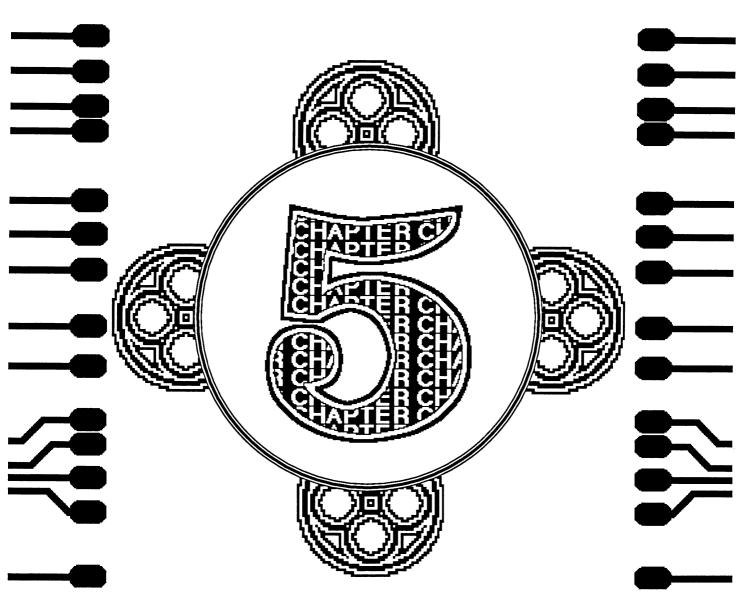
They could illustrate...yes, A discourse on Serendipitous Accidents!

#### CONCLUSION

Corral wandering thoughts. Drop anxiety. Bring an extraordinary to ordinary circumstances. Perfect joy!



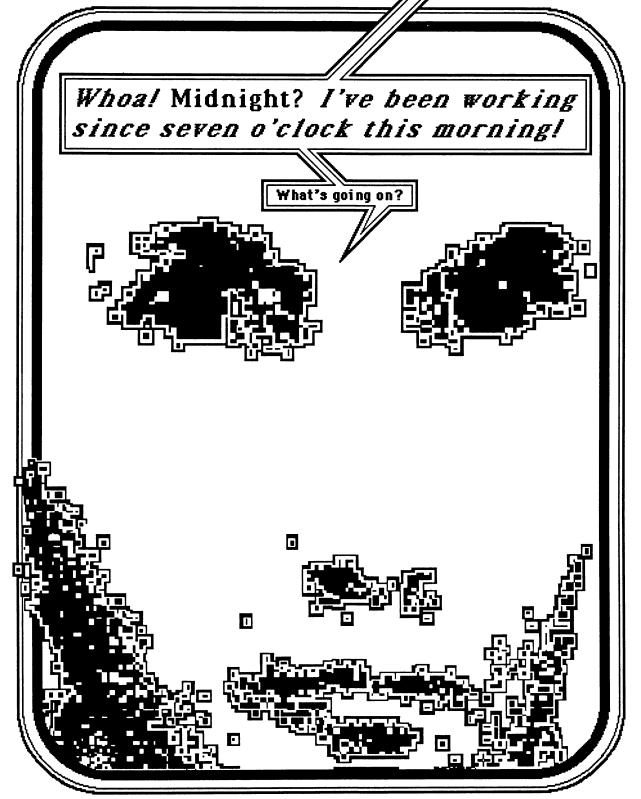




ON THE RELENTLESS FASCINATION OF THE COMPUTER ON THE RELENTLESS FASCINATION OF THE COMPUTER



Here's the typical scene: The end of another day in the studio. I've been finishing up a page for hours now, nudging FATBITS endlessly around in pursuit of the elusive splendor of pixel perfection. Must be late. Wasn't that the last call for dinner? I really should go in before the food gets cold. What time is it, anyway?





nly when I lurch clumsily against the studio doorway do I awaken to the fact that I've about totally lost touch with my body–consciousness. I am buzzzzzzzzzzed out. Time for a quick inventory.

buzzzzzzzzzed out. Time for a quick inventory.

Breathing: Shallow. Neck and back: Stiff. Head: How long has this head-ache been there? It's deep in, lurking right on the edge of perception...like a 60-cycle fluorescent light hum.

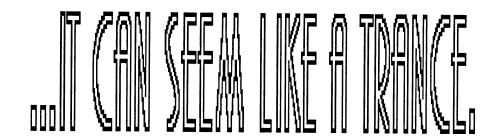
A quick meal and to bed. Sally is sound asleep. I'm bushed, but I feel like I've just had two cups of black coffee laced with silicon. I lie there for hours listening to loose binary static hiss through my neurons.

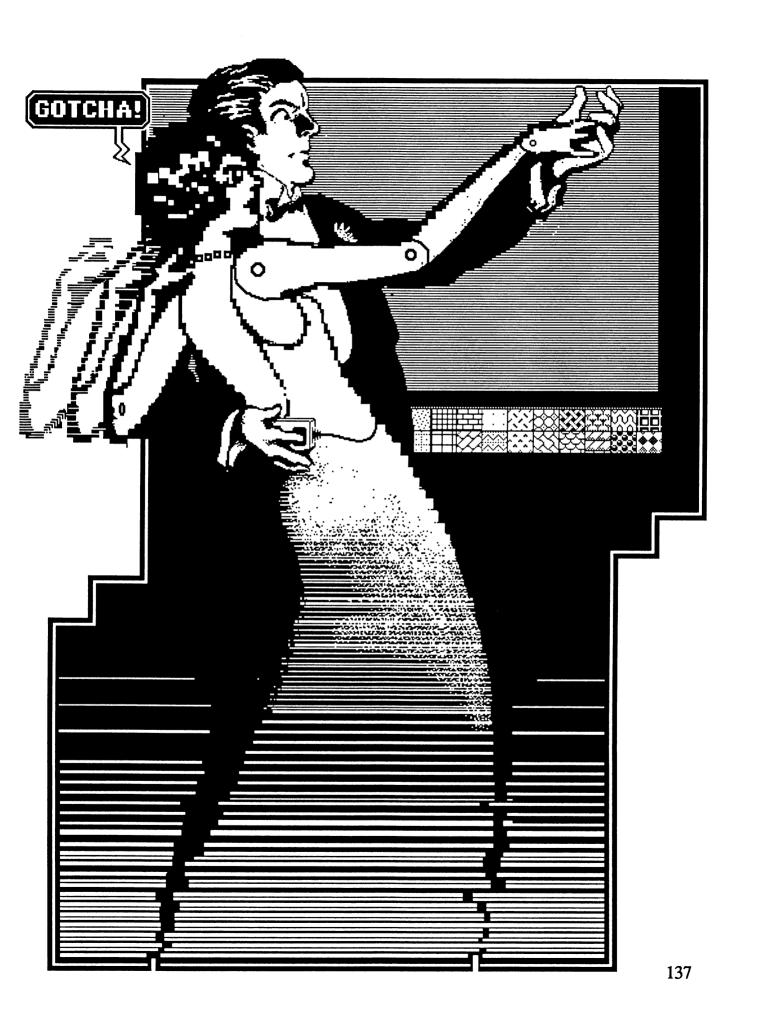
I've been digitized, that's what!

Please note: There are two sides to the Macintosh relationship:

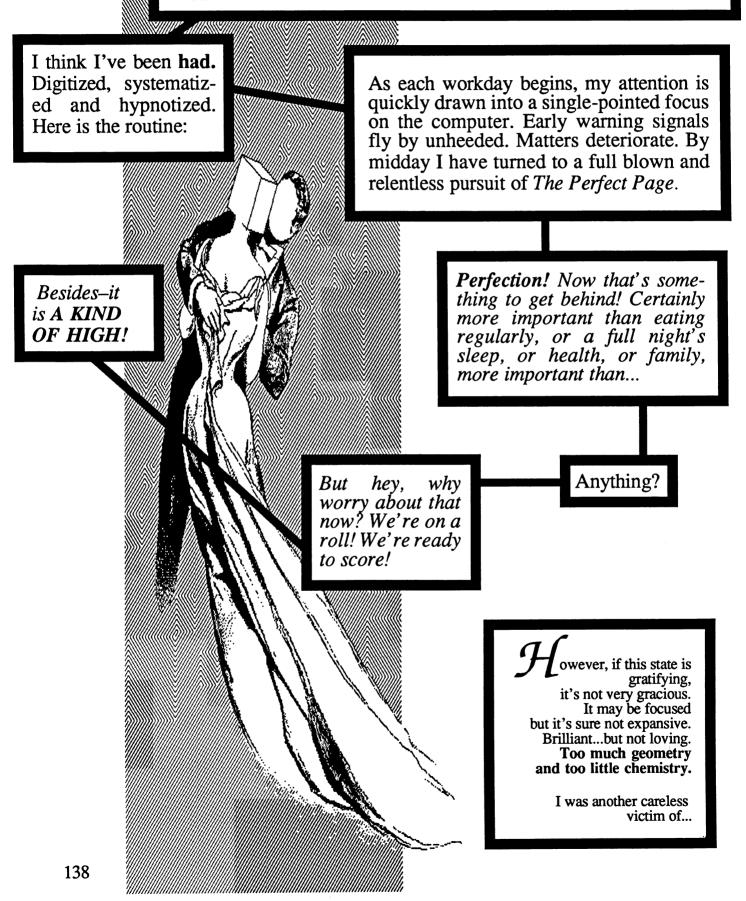


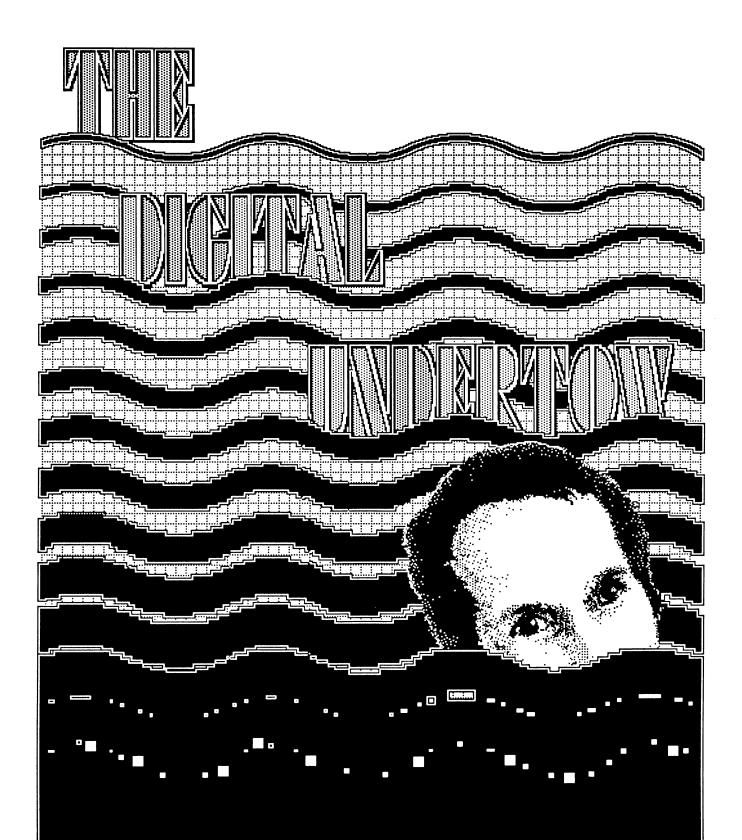
CAN SEEM LIKE A DANCE



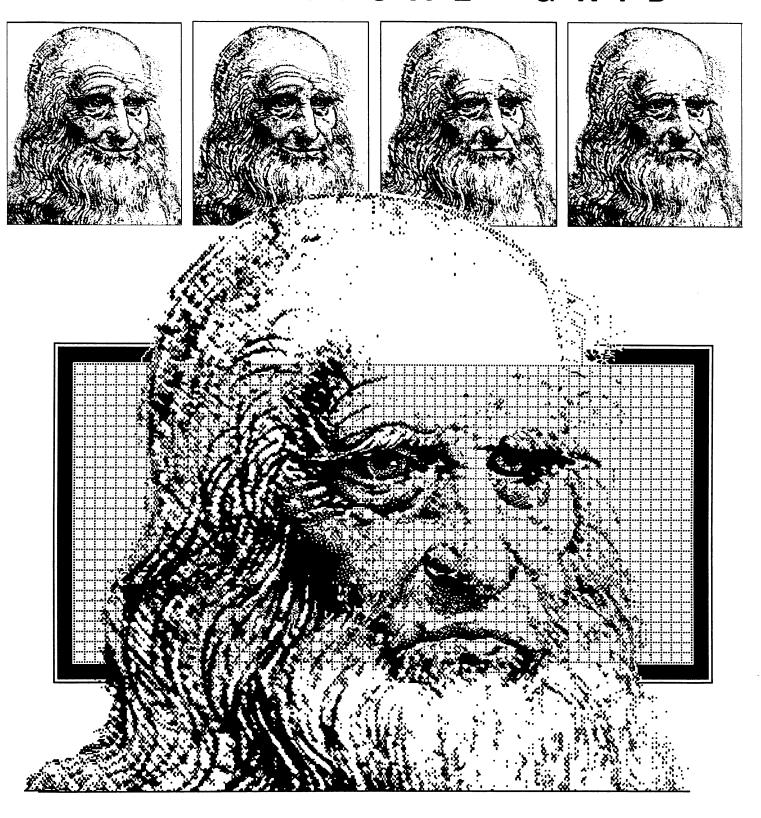


The light-hearted dance of discovery had turned into a lock-stepped technoidal Tango, with me a willing, tranced-out partner.

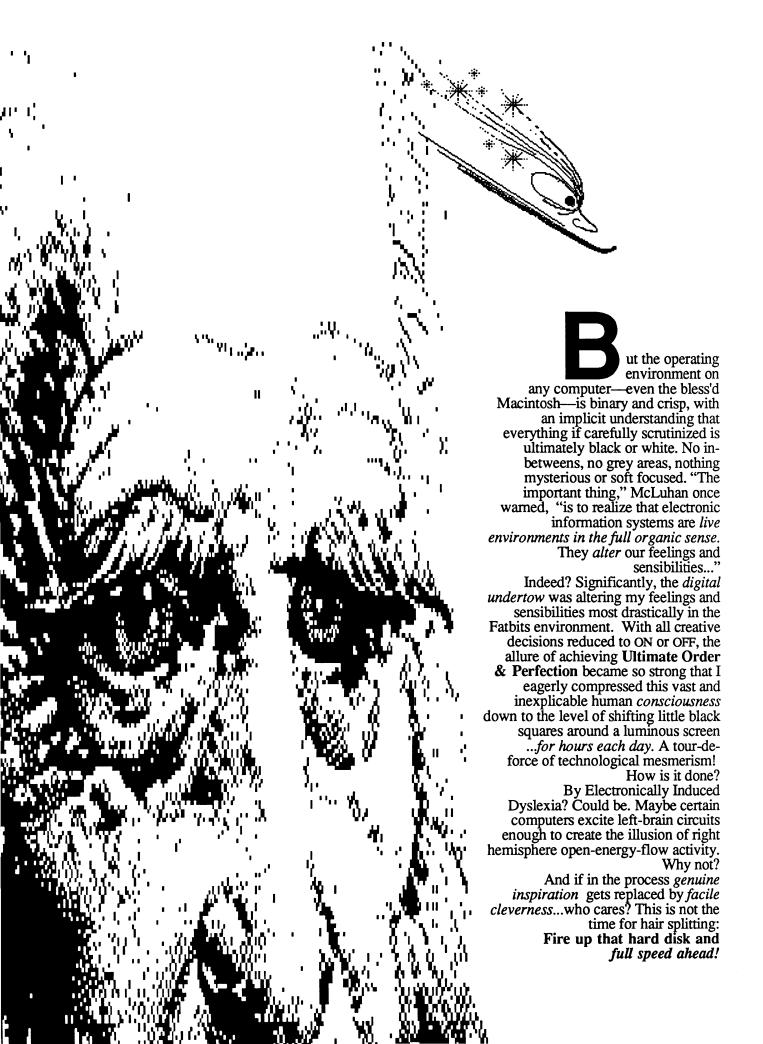




SOONER OR LATER ANYONE DOING CREATIVE WORK WITH A COMPUTER WILL DISCOVER THIS TENACIOUS PULL BACK TOWARDS THE OBSESSIVE PERFECTION OF THE A N A L Y T I C A L G R I D

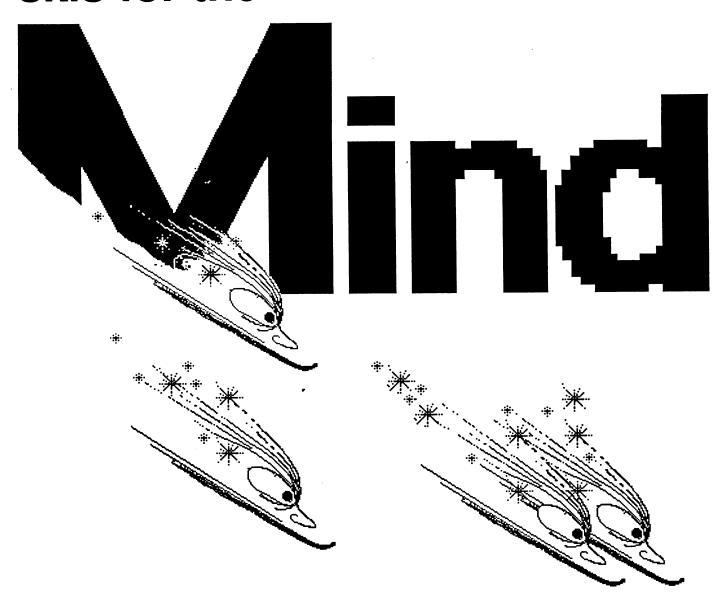




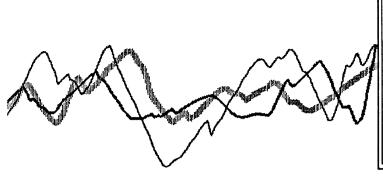


# Not without reason has the Mac been called

# skis for the

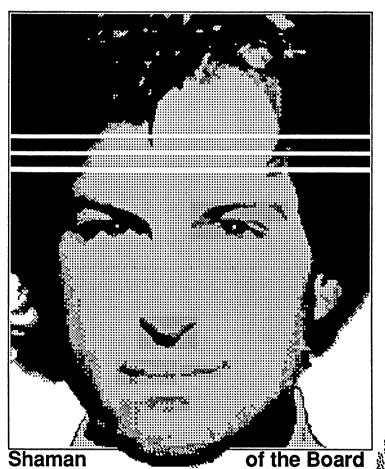


...it puts you on the fast track.





### LIFE ON THE LEADING EDGE



Of course! The fast track. At last I see what's been going on. I've been initiated by the Mac into the fraternity of the young and the restless. It all checks out: self-motivated and ambitious; aflame with visions of exponential growth and overnight success; long hours and six-day weeks; no extra time for other interests. And enough leading-edge tingle in the corridors to sweep my common sense reservations under the rug. Of course I don't see my wife and kid anymore, but—uh—I'm sure I could still recognise them...

Yup: The whole enchilada.

Lots of people really thrive in this condition. Indeed, Apple Founder and former Shaman of the Board Steve Jobs believed this is the way his development teams work best; that they're artists. "Look at the way artists work," he explained once, "they're not typically the most 'balanced' people in the world."

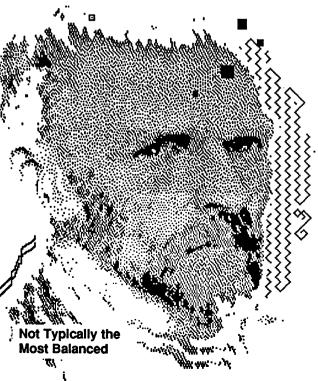
True enough. But there's no arguing with success these days, right?

Wrong! We don't have anything against success ...but you needn't be a prophet to spot yet another golden calf here. All you need is a brain which starts to fry when it finds itself accumulating too many mental speeding tickets.

Time for serious reflection.

If you step back a pace or two and get a wider perspective, it appears that what can occur here is the perennial obsession with surface activity that can distract us from the heart of life. This is the domain of calculative thinking, and it's perhaps the most dangerous quality of our secular age.

Calculative thinking is not only the process that has transformed our world through the empirical sciences, but characterizes any thinking process that plans to organize, manipulate and dominate situations. Even artistic situations.



"It is the greatest challenge of our time to recognize calculative thinking and be aware of both its limitations and its power to completely absorb our energy and attention."

But what about this exploration of the mysterious bionic relationship between man and chip? Pretty important, that?

SURFACE ACTIVITY.

OK, then what about the business of opening up right-brain functions...Saving the World, and so on? Surface activity?

Maybe.

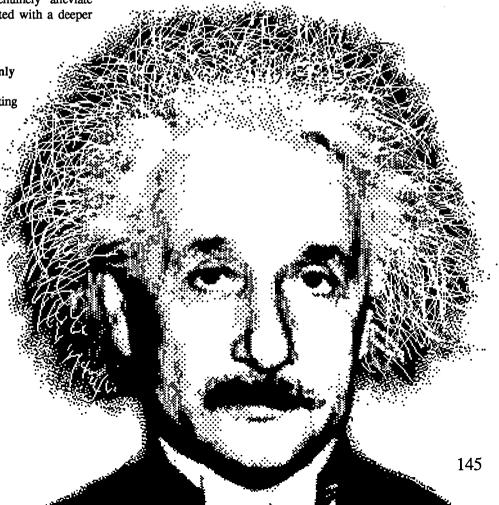
Without disparaging the ability of calculative thinking to order our world, even make it beautiful, it is the greatest challenge of our time to recognize it, and be aware both of its limitations and its power to completely absorb our energy and attention.

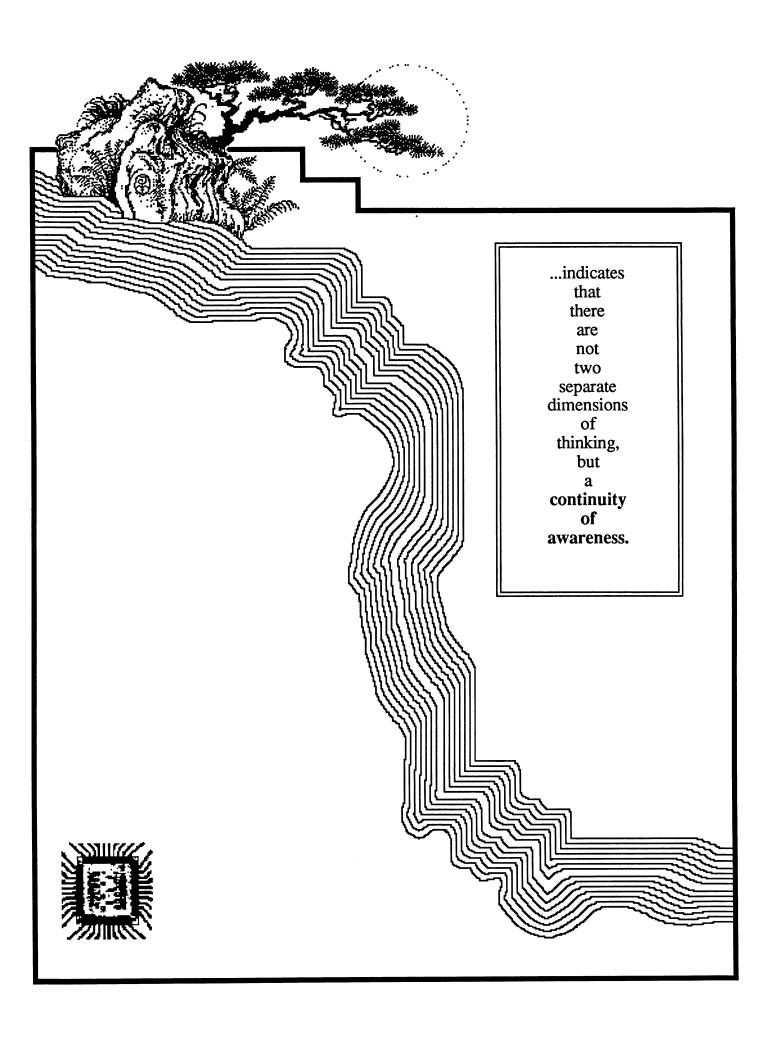
Calculative thinking, with all its apparent practicality, becomes an abstraction, cut off from its roots. It develops technologies that possess manipulative powers and offer an illusory sense of tangibility but can never truly nourish humanity. Calculative thinking—thinking confined to its own surface—can never genuinely alleviate human problems unless it is integrated with a deeper level of thinking.

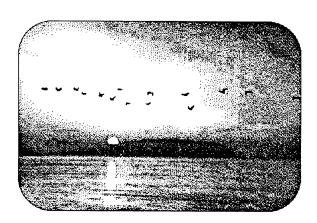
Surface, calculative thinking only obscures our intrinsic harmony.

It is grounded in the principle of splitting and dividing all things as a means of analysis and control. By the limits of its own nature it can never truly grasp any profound underlying unity, but often pretends to through platitudes such as "We're all one."

Yet the fact that we often find a peaceful strength in someone who has mastered some aspect of calculative thinking: musician, mechanic, potter, mathematician...

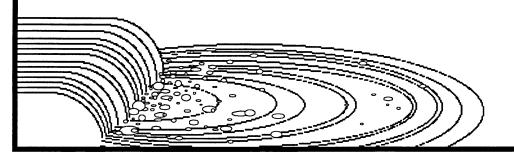


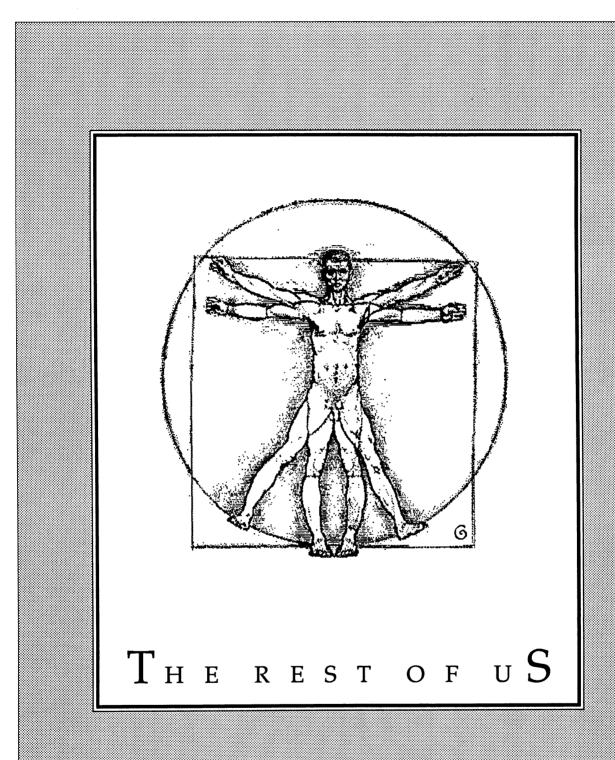


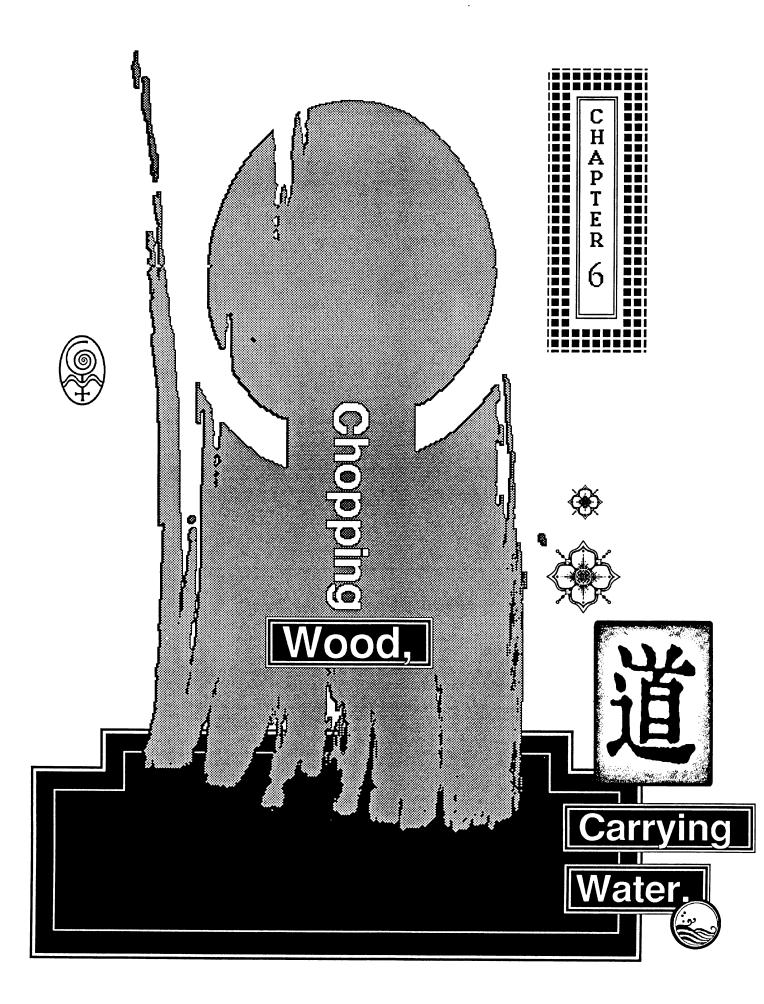


This separation is a symptom of spiritual disharmony to which human beings have always been subject, but perhaps more intensely so in this secular and technological age. The healing of this disharmony between calculation and contemplation is the process of Enlightenment, which reveals the essence of all thinking as an unbroken stream of pure consciousness. This process is not for a few Zen masters, or saints, or "mystics" - but for everyone.

THE REST OF US.





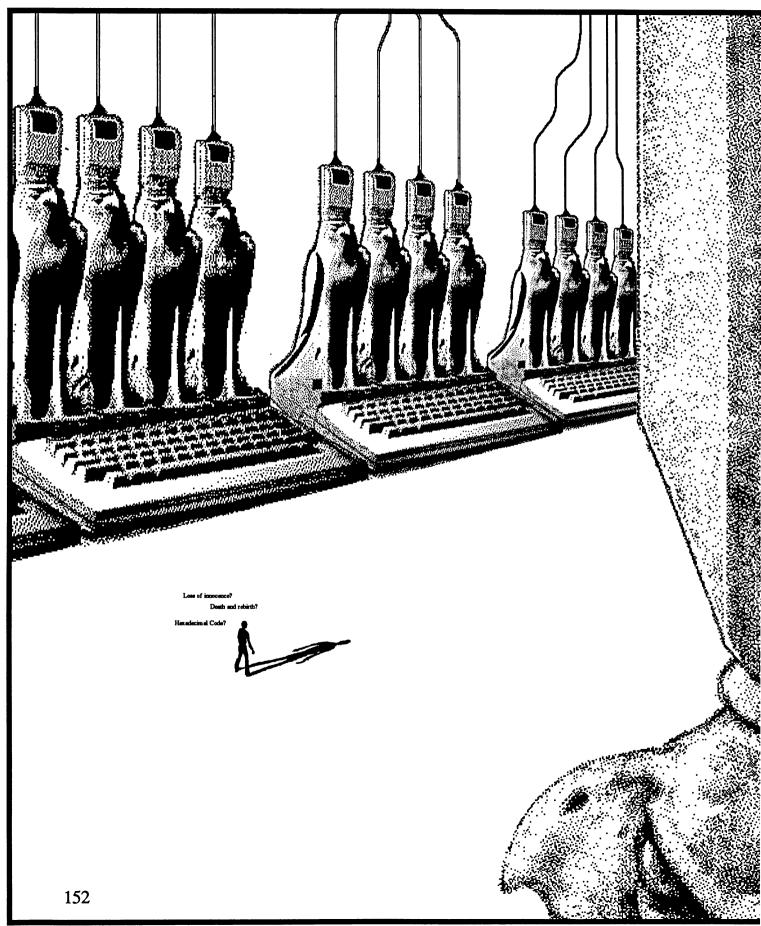


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"The future masters of technology will have to be lighthearted and intelligent. The machine easily masters the dumb and the grim."

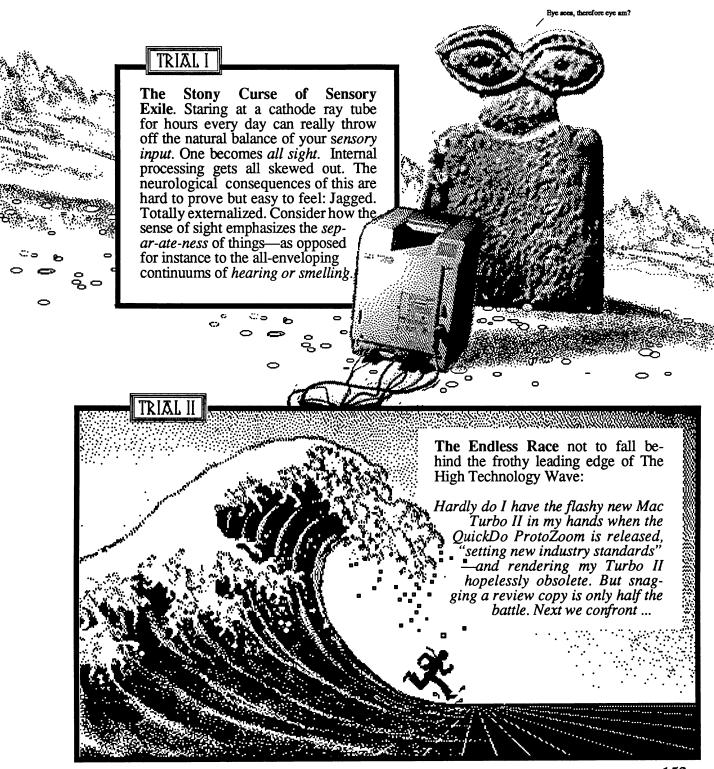


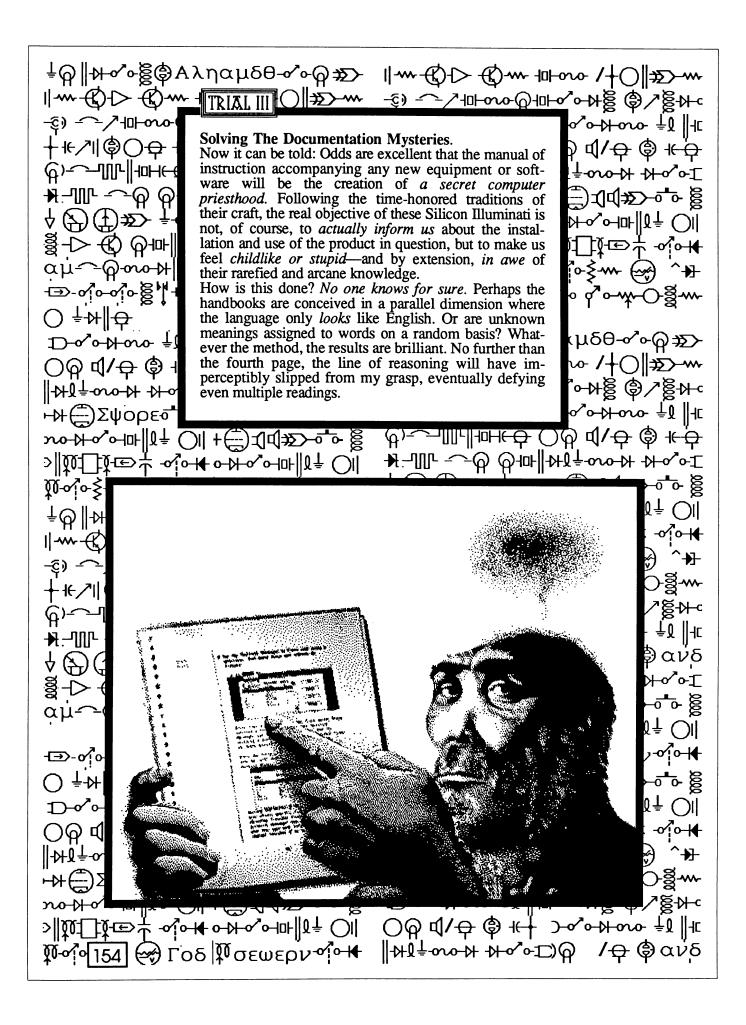
## On the other hand I might well be at the point of no return



### in a genuine technological rite of passage.

Rites of passage are usually characterized by a series of trials. For instance...

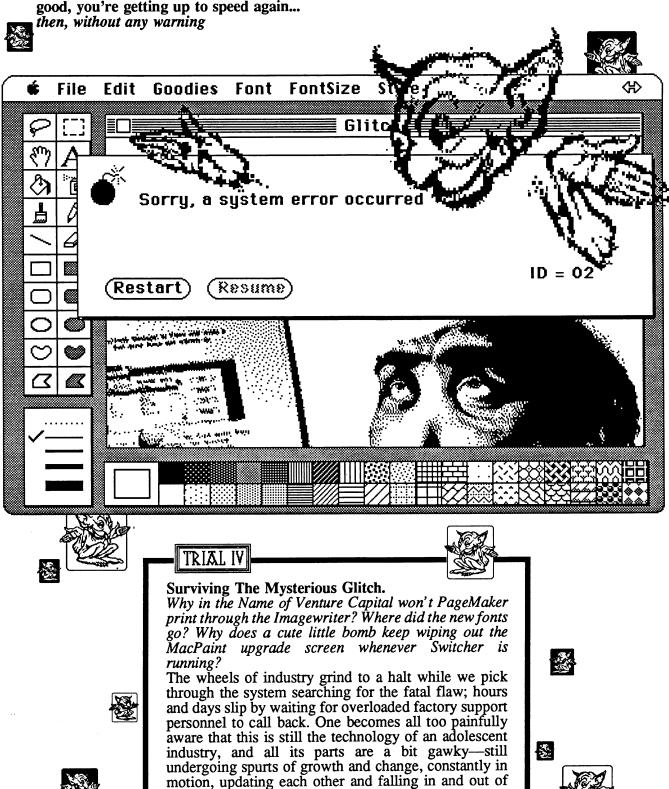






Curiously, trial and error usually reveal that installation and use are actually quite simple. Things are looking good, you're getting up to speed again...

compatability.



Of course, no Passage is devoid of unexpected moments of grace:



MYSTERIOUSLY

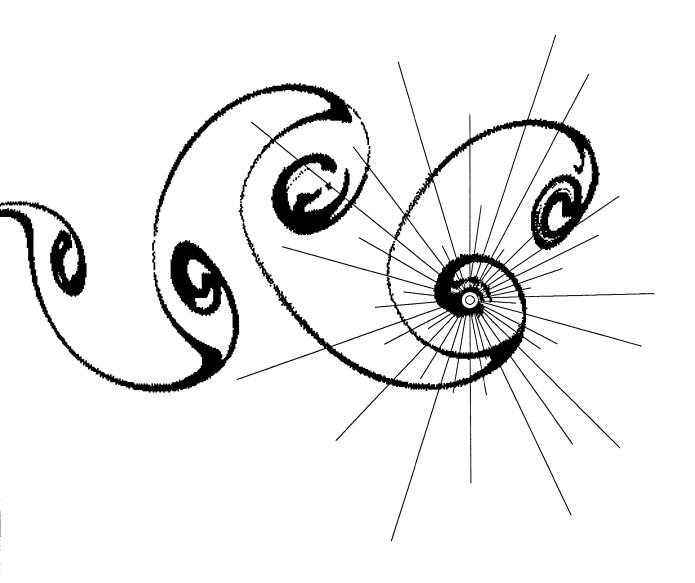
after many a foiled attempt to get a new system going smoothly, I sometimes walk through a routine that didn't work before—and...What? Now everything works fine! But of course. The Randomly Generated Blessing has come and gone.

I suppose this should be comforting, like when Han Solo gives the control panel of the Millenium Falcon a good whack, and the recalcitrant spaceship leaps into lightspeed: shucks, even this high technology is kinda human after all!

But it's not comforting. I can't get over the notion that computers should have a certain implacable perfection about them. If something goes awry—well then it should *stay* awry until properly remedied according to the book.

Eventually, and by means never fully understood, the new additions are online and the whole system running happily.







hurry
hurry
hurry
hurry
hurry



### THAT OLD TIME RELIGION

Some time ago however, The Heaviest Factor slipped into my studio from her domains in the Outer Darkness. Unnoticed, she slowly grew to awesome proportions. Now she is out of the closet, an established presence, shamelessly droning her harsh incantation over my shoulder. It's that ancient one, old serpent Mahakala herself, Devourer of the Dancing Moment, premier deity of the old Time Religion, promulgator of its triple sacraments: Impatience, Anxiety, Haste.

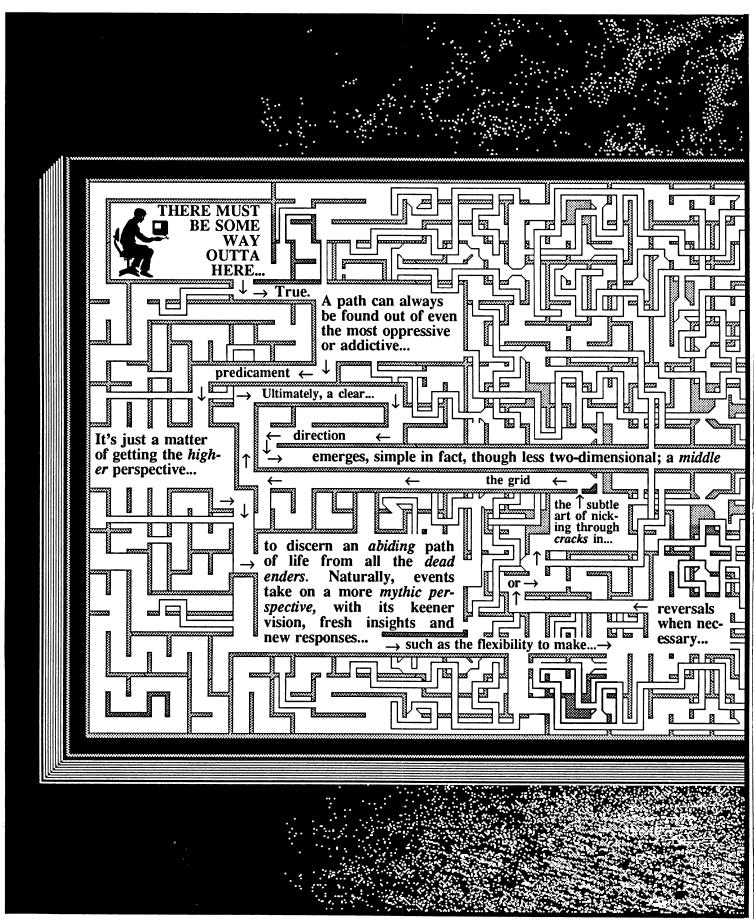
Hurry hurry hurry! I can't seem to shake the feeling, even when I remind myself hey, there's plenty of time. In the car I'm always driving faster than necessary. Like the White Rabbit, always late. No.

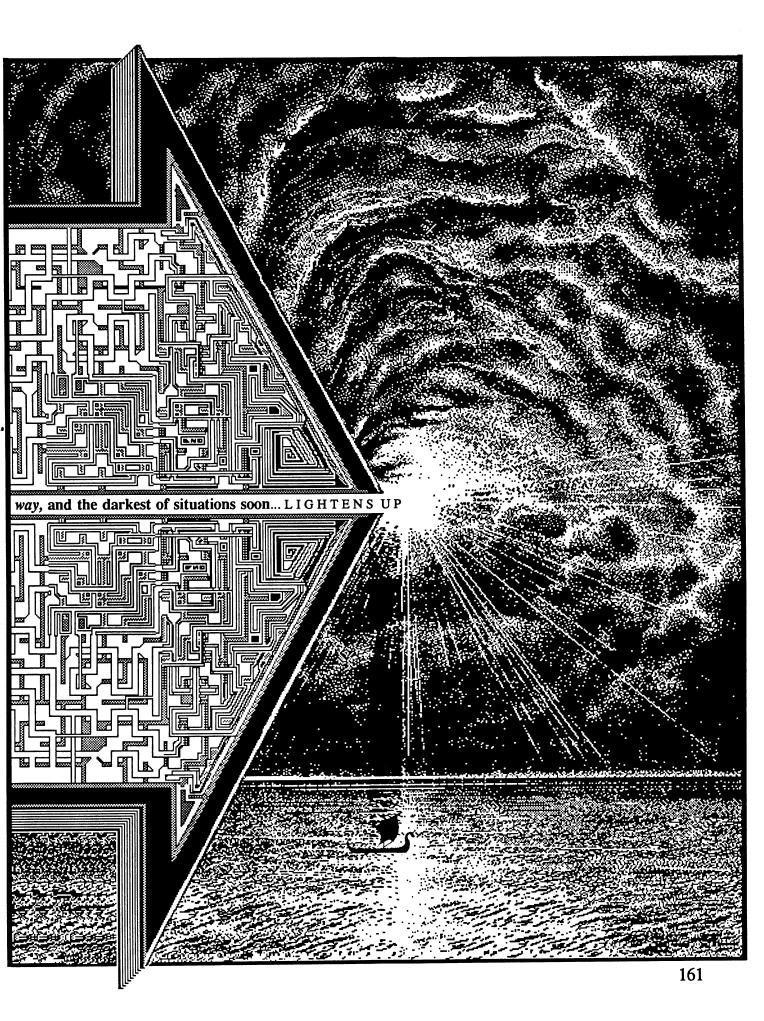
Always feeling late.

So why the hurry?

There's an odd combination of speed and stasis built into computers, and once you've successfully merged with the chip... it do strange things to yo' head. One minute you're cruising at warp speed doing all this instantaneous rightStuff—then Clunk! the system dumps you on hold while it glacially performs some piece of internal business. And your mind dumbly freezes up right along with the screen. Perhaps only a handful of seconds tick by—but it seems as if your biturbo Macintosh Spl. has just stalled in the pits at the Indianapolis 500, and as your precious lead dissolves, the pit crew just amble over to see what's wrong. Hey! Let's go! Hurry hurry!

One merges with the chip; one gains extraordinary control over a miniature universe. But the influence flows both ways. One's brainwaves are synchronized now at a hypersteady 7.4 megahertz. One lusts for 20 virgin megabytes of mass storage. One's far horizons are the four crisp edges of a cathode ray tube. The computer becomes one's life. A tad limited, no? But, eyes a-gleam, one is still into it! We see and obey... To finish this journey in good style, yea even in acceptable mental health, I will have to steer my way clear of this labyrinth and get on True Course again.





# ON RATS & RITES OF PASSAGE

The difference between men and rats, it has been observed, is that while we both have the ability to find the *cheese* in our respective mazes, when the cheese is gone, the rat will only return to the spot three more times at most. Men, on the other hand, keep returning to the same spot for the rest of their lives!

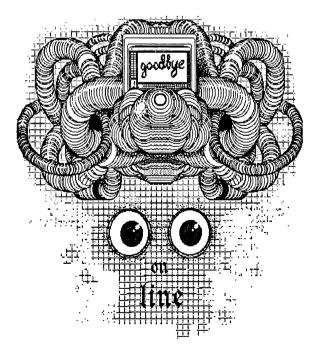
For a while there, the Macintosh experience had been the Great Cheese. Like any sleepwalker in the throes of a new romance, I had projected onto the relationship the fanciful hopes and false expectations which always lay the foundation for a good bringdown.

Sleepwalker? Sure. Truth is, we roll through life on automatic pilot, asleep at the wheel, more or less oblivious of what's really going on—of what's really Real. Mostly we get away with it.

This is variously called Everyday Life, Business as Usual, The Great American Dream.

But through the modern magic of electronic brain stimulation, I found myself getting strung out everytime I nodded off at the wheel of the Mac.

The computer's velocity and dynamics raised the *stakes* by amplifying my *state*. Win big, lose big. Time and again, I have been drawn into the rose gardens of digital delight, only to find myself snared at day's end in a briar patch of thorny obsession. *Samsara*. The whole venture certainly addresses some crucial area where I am all too willing to let go of the helm.



Rites of passage are built around a crisis that forces a closer look at the essentials of our life. But since our modern times



lack the appropriate Homeric pageantry, passages must surface in unlikely surroundings and are difficult to spot. If you catch the wave though, hold on! One should come out the other end not only older, but wiser. *Recognition* of the process, and *where you're at in it* is the key to staying the course to a successful conclusion.

A little calculation reveals my position is in the crucial bottleneck stage. The sirens of fascination beckon on the right, while to the left loom jagged hassles and obsessions.

Artful means will be necessary to see this thing through to a graceful conclusion.

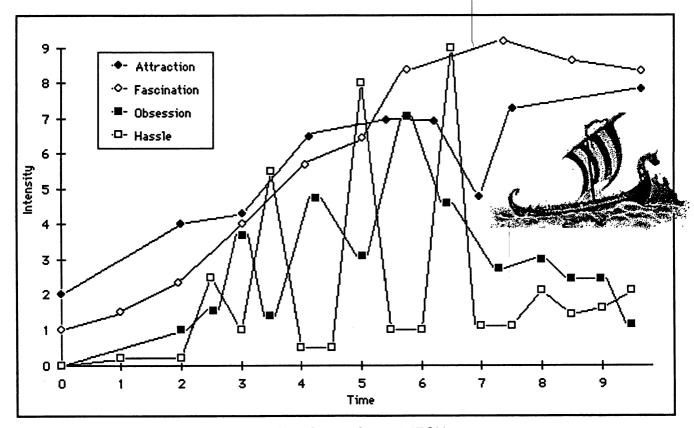


FIG. 29.3 CRUCIAL BOTTLENECK

# rtful means.

In the arts of Zen, form is invariably balanced with emptiness—not just unfilled background, but a *living* emptiness intrinsic to the dynamics of the work.

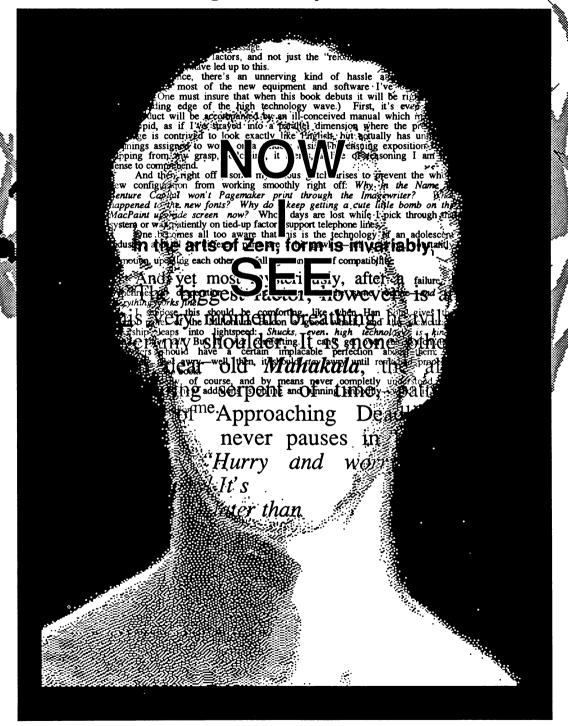
The same holds with computer software. When a program is loaded into the Mac, it needs plenty of unused *k* 

—emptiness—
left in memory to "move around in." If it's not available, any operation more complicated than dotting an i, can draw this terse little haiku:

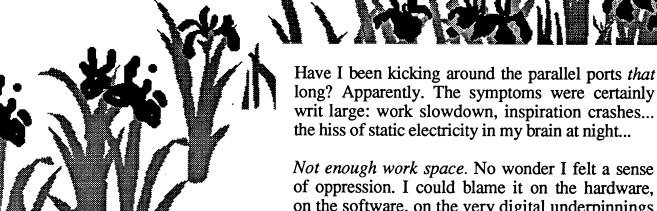




Not enough work space indeed!



The book had filled up all the files in my head.



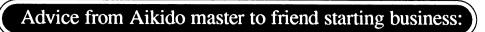
of oppression. I could blame it on the hardware, on the software, on the very digital underpinnings of computerdom...if I tried hard enough I could probably drag the entire military industrial complex into the hearing—but wait! Who's really in charge here? The simple fact was that there is no one else to blame. I had filled up all my files.

If the situation has arisen because of what I hath done, then responsibility to UNDO was mine too. The irony did not escape me that this *overcrowding* is all taking place in a book promising a look into Zen, and by extension, into emptiness.

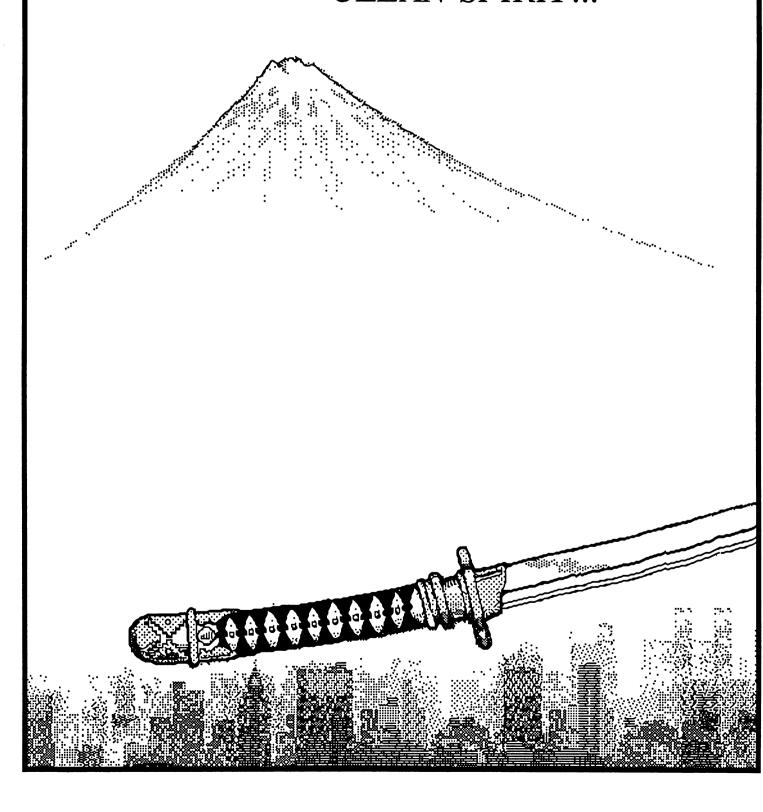
### Getting it on with Emptiness.

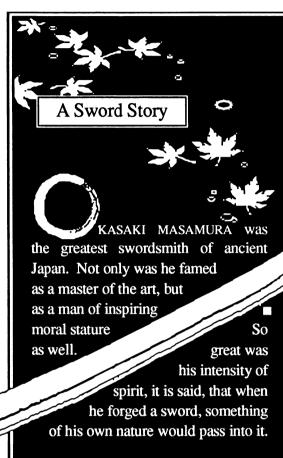
A first step in clearing out the head is some serious reflection on the matter of clearing out the head. And while merely talking "emptiness" is generally frowned upon in the Zen trades, a little running on about it has some value—it starts a synchronizing of one's mental algorithms with an elegant new Source Code. In other words, let us seriously consider the possibility that a shift of our center of gravity away from all the stuff happening around us can radically lighten one's baggage, clear one's mind, and open the heart.

The Graphic Safari has arrived at an interesting about–face. First came an account of getting into digital territory, and now, cutting our way out!



# "CLEAN SPIRIT...



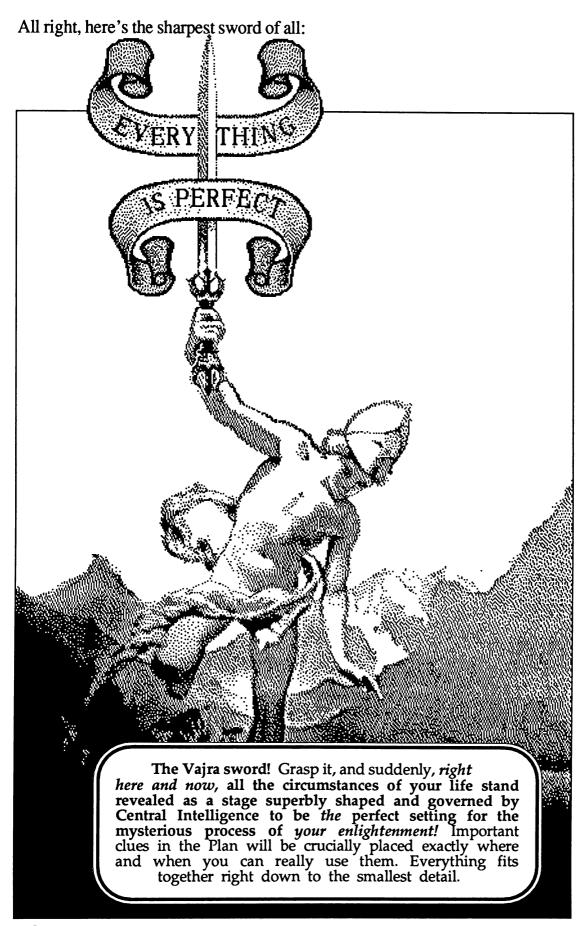


His ablest disciple Muramasa was reputed to have exceeded him in the keeness of his blades, however.

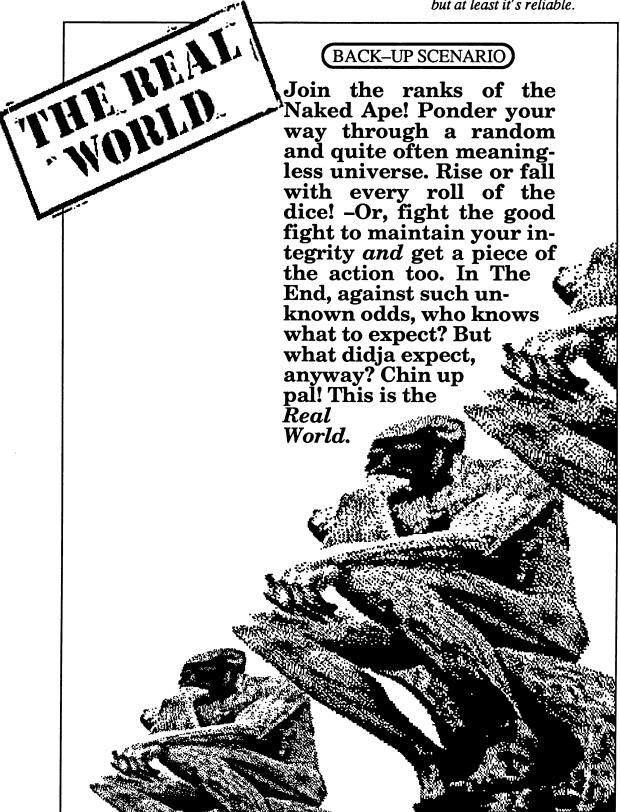
A samurai, wishing to ascertain the finer edge, placed a Muramasa sword in a flowing stream. Every fallen leaf that floated down and met the blade was cut in two. He did the same with a sword of Okasaki.

To his surprise, the floating leaves avoided the blade.

### SHARP SWORD."



Does that compute? Of course, if you're not comfortable with the plot-line of "Everything is Perfect," there is a far more popular back—up scenario available. And if the going gets a little heavy at times, remember, it may be a B movie, but at least it's reliable.





# **BUT WILL IT PLAY IN PEORIA?**

It's tempting to buy the "Everything is Perfect" script, but seems risky too. How can you be certain it's not just wishful thinking?

Will it play in Peoria?

No way. Under the pitiless scrutiny of everyday rationality, "Everything's Perfect" folds after one show. "Un-be-lieve-able," chorus the critics. "God is in His heaven, but All is decidedly not that well on planet Earth."

Hold on now. Remember that one variation or another of this understanding is *central* to all sacred traditions. The least we can do is look at it again with fresh eyes.

If we do, we discover a new variation of the Theory of Relativity: both of these scenarios are true. Obviously the "Real World" script tells it like it is. (The evidence is undeniable.) We are stuck in a patently unjust and suffering world run by loony dinosaurs whose ignorant armies clash nightly (between ads) on the six o'clock news. Occasional flashes of beauty illumine the scene, of course—to be overshadowed, if present trends continue, by

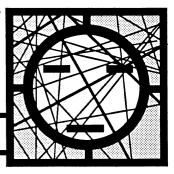
some nuclear flashes. Everything's Perfect?

Come off it!

We're talking

real world.

A Public service of Name & Form.



### That's just how it is out there.

Or is it?

Is that...it? Only for those who don't mind missing the whole point of this extravagant game show called Reality.

Now pay heed and attend, O Best Beloved. Merely typing in the text of the "Everything's fect" page, the author felt a subtle energizing, a brightening, a seeing deeper into things settle into him. Of course. It's like that whenever one approaches the It's Dharma! different kind of knowledge. And feels different, it because it is knowledge based on the totality of our human experience, on patterns observed not only over one lifetime, but over many lifetimes.

### Unseen Order.

We already know there is pattern and often unseen order to be found everywhere in the manifest world. With pattern so indwelling in the form of things, why not then in the way of things—in the way of our lives no less than the growth of a leaf.

Periodic tables; Fibonacci spirals; syncronicity and coincidence; rose petals and rites of passage: all part of the same

unfolding Pattern. With a new eye, Everything is perfect.

What brings this whole gestalt into focus is *belief*: The simple decision to consciously affirm, as a working hypothesis,

that this is the way things really are.

But what about the "Real World" Plan? (Or non-plan, as the case may be.) "No problem," says

it. The ultimate proof of the Patern Plan is simply that it works. Believed in or not, it is in sync with the deeper rhythms of reality, and is open to the confirmation of subjective field testing.

**\*** \* **不**不

the Sage, "no real dualism here, but a clearly defined relationship." The "Everything's Perfect" Plan is simply three dimensional to the two dimensions of the Non-Plan. It doesn't contradict it, it contains

Meditation on Location.
The only way to

confirm the Pat-

tern Plan is by entering it. Voyeurs will discover little—and wind up only confirming their worst suspicions. But embracing it initiates a new and immediate sense of forward motion, and a corresponding Doppler shift in reality. Everything moves in a new light.

The "real world" turns around and opens, revealing that Everything seemed planless only because there are more plans than are looked for—than we've dreamed of. It's all Plan! All change and expansion, all movement into openness.

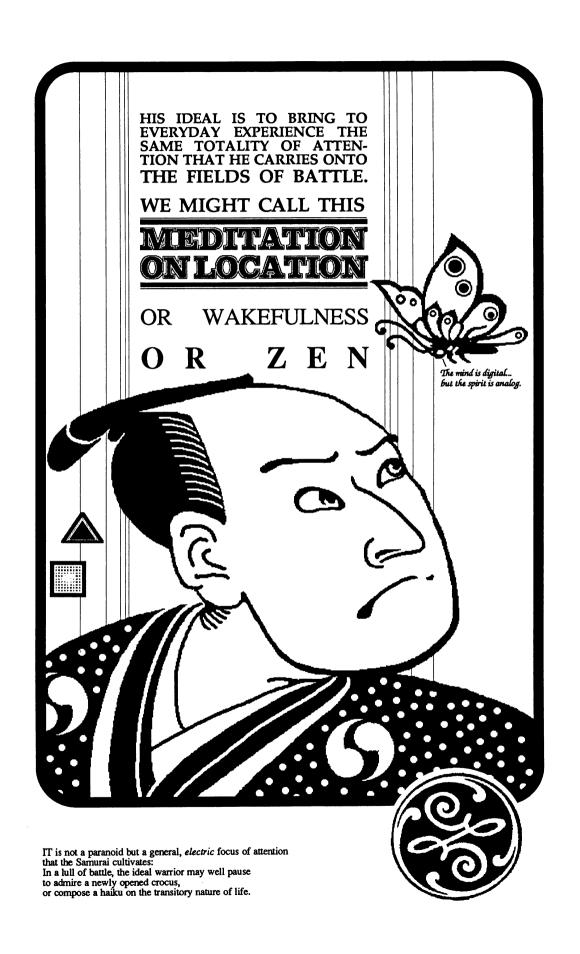
At this point, all hindrances and hassles are revealed as curriculum—to be passed and left behind. Complaining and self pity and faultfinding are shown up as obvious energy rip—offs: distractions from your real task of discovering WHAT'S really going on; WHY

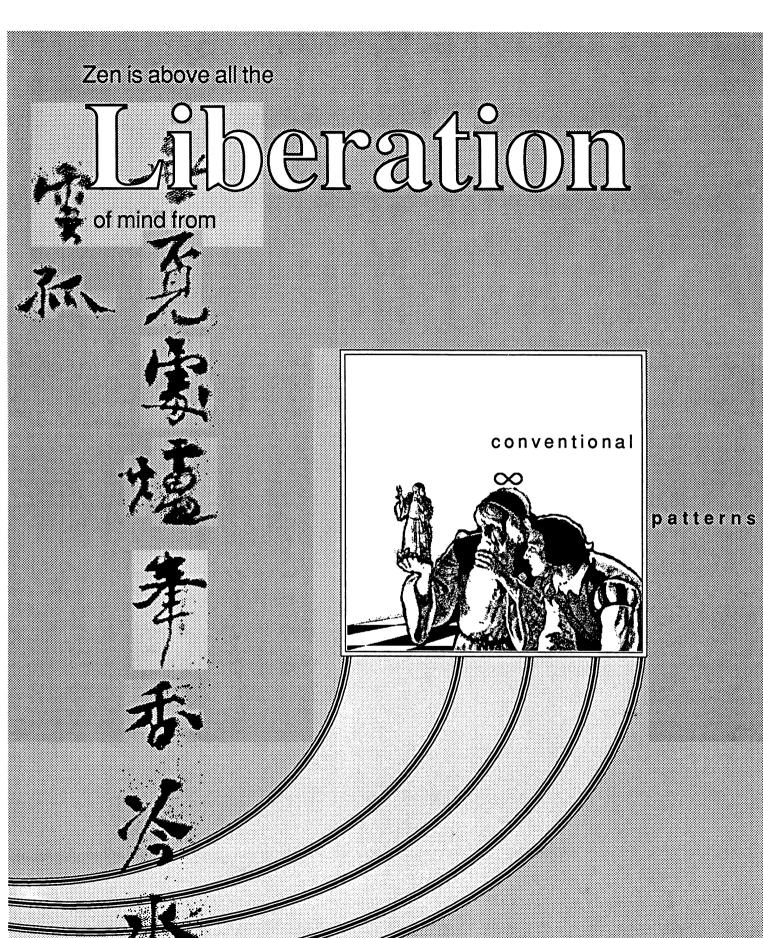
everything is perfect. And then

acting appropriately.

But to fully exploit this calls for something of the attitude of the samurai.

The Way of the Samurai: Meet every second in life as challenge; respond fully to whatever happens without anxiety. Or complaint. Or clinging.







Persimmons courtesy of Zen monk Mu Ch'1 who dashed off six of them on a piece of rice paper no bigger than a table napkin, and would be amused, no doubt, to learn that 700 years later it has become one of the most celebrated and valuable painthgs in all Japan. The actual connection to the

narrative of these persimmons is somewhat dubious.

hen we make contact with a deeper, unwavering kind of understanding, our attention starts to shake its addiction to the superficial.

Once deprived of their surface fascination, external events cease to be as primary as they once seemed.

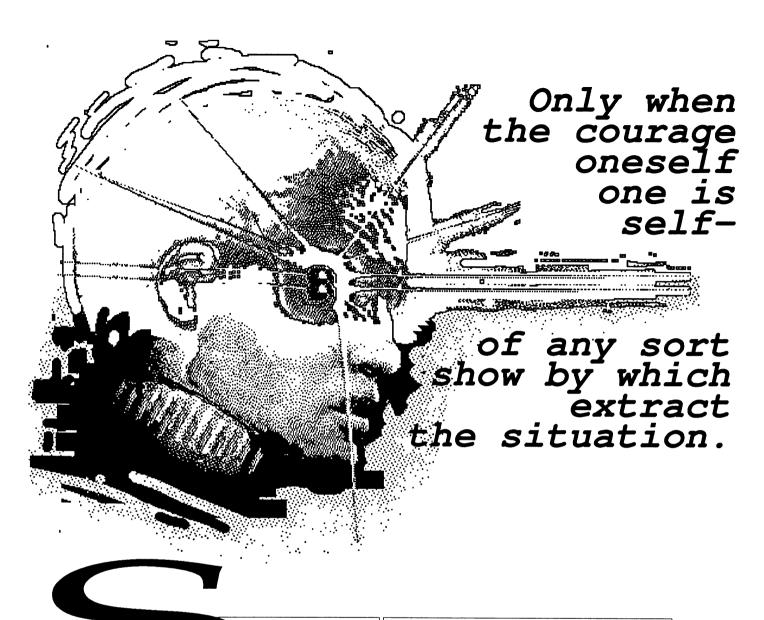
There's a lot more open space for the action to take place in.

True Life Drama lightens up. On the edge of the Great Mystery, your act acquires more the flavor of a chess game.

This shift in relationship with the circumstances of our life is nothing less than the "transmutation" sought by the alchemists of old: the lead of a rudderless noexit universe is turned into the gold of an ordered and infinite Cosmos.

Not the least of the virtues of this expansive condition is that it's a lot easier to have a clear perspective on

yourself.



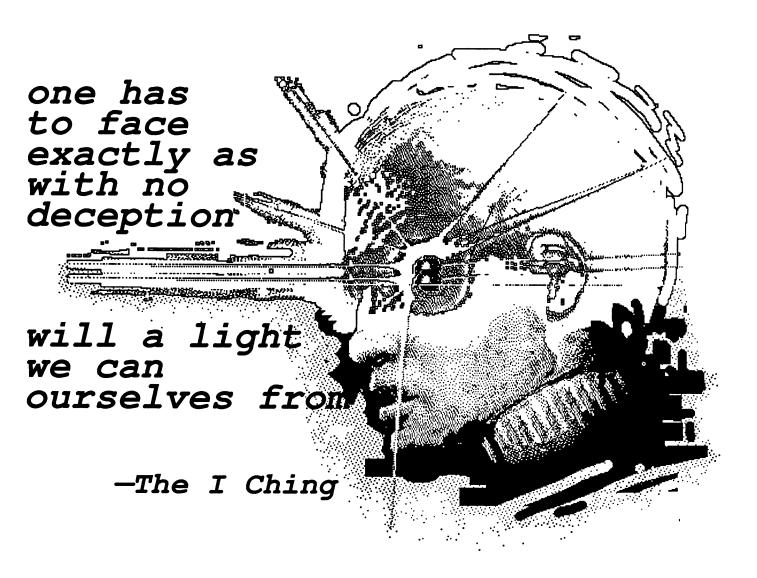
o I haven't really mastered the Mac? In plainer language, I haven't mastered myself. How naturally was our graphic safari sucked down the digital undertow!

Reviewing the entire journey, going right back to the fascinating experiences in the first chapter which set this entire book in motion, I can see that I was setting myself up to slip away from wakefulness right from the start.

Better take a closer look at fascinating experiences. Can it be that the unreflective search for the fascinating experience qualifies as the premier **delusion** of our time?

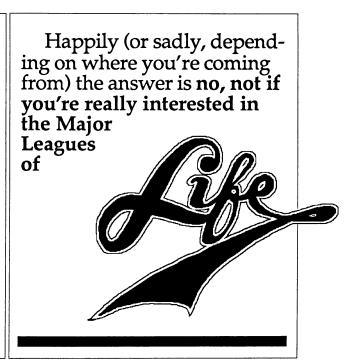
Instantly part of me files protest—Waddya mean, delusion? What's your problem, anyway?

A touch of outrage is



generally good indication you're on the right track. I think this line of inquiry has lead us into a major cultural heresy.

What is modern civilization geared up for if not the fascinating experience? Isn't that the good life, what we're aiming for? Art! Music! Creativity! Culture! People Magazine! That feeling! Going for It! Isn't that what it's all about?



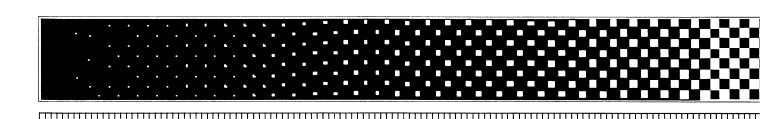
ut our fascination with the creative flow—that feeling—is not without good reason. The creative freedom of the artist within his discipline can be a foretaste, a coming attraction of the limitless freedom of the spirit.\*

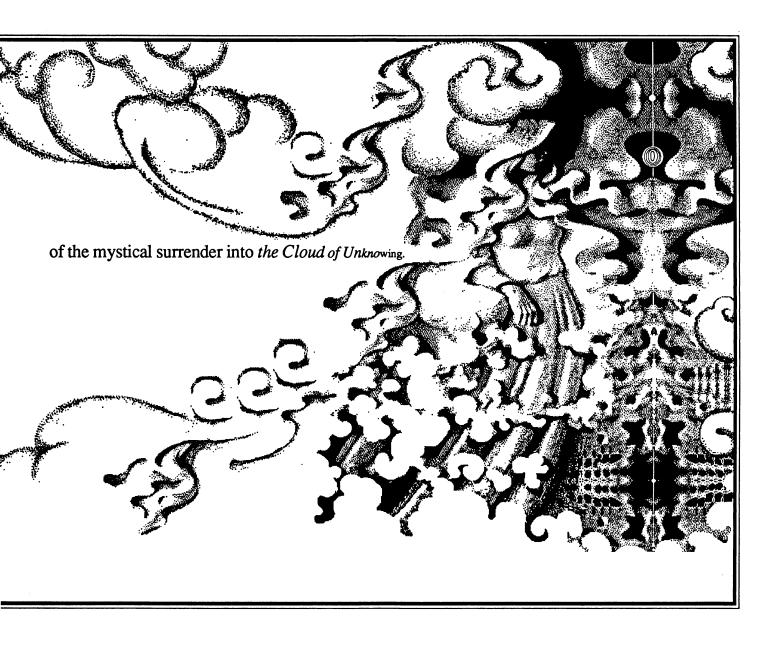
Similarly, the controlled abandon that lifts the artist beyond the rational grid is a reflection

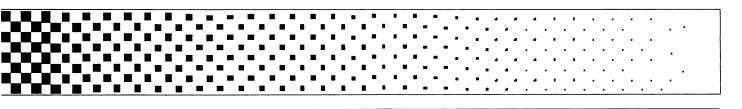
Yet there is a vast difference between the two! "Creative freedom" is like scratching your foot with your shoe on. Why settle for that when there's the abiding and profound satisfaction of a truly radical transformation available. Totality and wakefulness in every moment. Take off the shoe. The irony is that attachment to 'the fascinating' is simply one of the best ways going to stay out of the pool indefinitely.

The clear open space at the center changes everything. When life is full there is no history, nothing to report... The tranquility of the heart has no edges.

Fascinating experiences are just another test, another trance to break out of. Let us look instead in another direction.



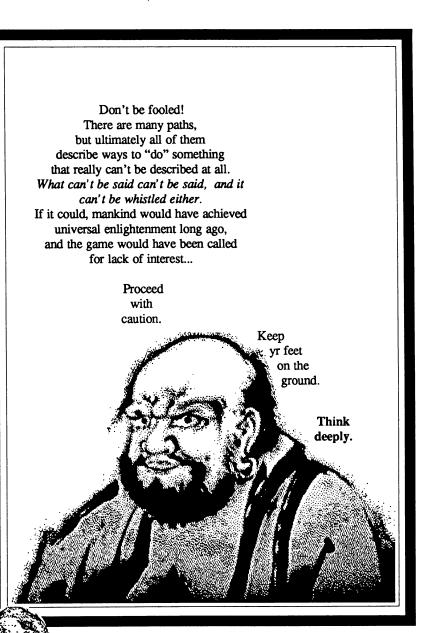




#### There are well-mapped out ways of accomplishing this transition.

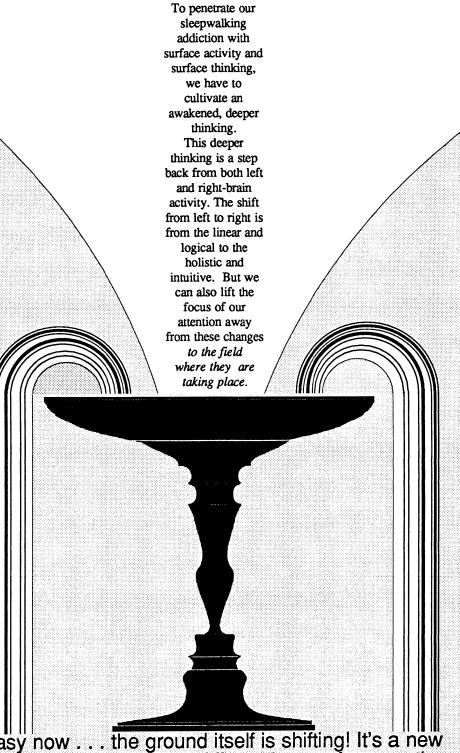
\*On reflection, let me qualify this statement. For us, in our tilted, technoidal-analytical civilization, the right-brain experience is the Opening. But to the animistic brain of Conan, and other denizens of any emotional intuitive society (mostly past), no doubt a left-brain evolution could precipitate a glimpse of the crystalline perfections of divine harmony. Perhaps that's just what happened to that bunch of barbaric Peloponnesian tribes who caught the light, turned into Greeks, and invented Western Civilization.





### DEEPER THINKING

Beyond the biocomputer.



Easy now . . . the ground itself is shifting! It's a new alignment of our fundamental figure/ground perceptions: FROM THE MERELY OBVIOUS

# Pure Obviousness.

A deeper level of meaning which resides in everything.

Everything is perceived...

Known...

Through consciousness.

A simple shift in our attention brings this machinery of awareness into the foreground.

Consciousness is as obvious as the ocean is (or isn't) to a fish. The kind of perception that can see the ocean is an alert, aware and utterly receptive

perception.

It is the quiet essence of patience.

When we reach the point that it's OK even if nothing happens, then we

Come Home.





#### HOW FAR IS THE LIGHT OF THE MOON FROM THE MOON?

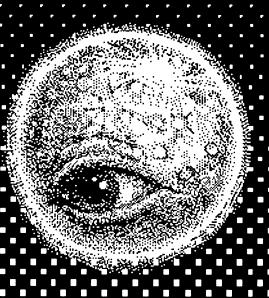
This *shift* is the open secret. It's like taking a kid backstage at a magic show. Oh! So this is how it works! Of course, how simple!

how simple! At a skewed angle, all this can seem like a big ego study of "me and how my 'consciousness' works." Indeed, approached in the wrong spirit, it is. But the real thing is not like that at all! This is the sacred event of grace; the birth of overwhelming compassion. Big Truth: the consciousness that underlies and vivifies your life is the same pure consciousness that permeates everyone and everything and everywhere. The open secret: all separation vanishes if we simply shift focus from afar and learn to dwell on what lies near. Nearest. On home ground...on primal awareness as

permeates every instant of our daily activity: The Buddha Mind. This is also

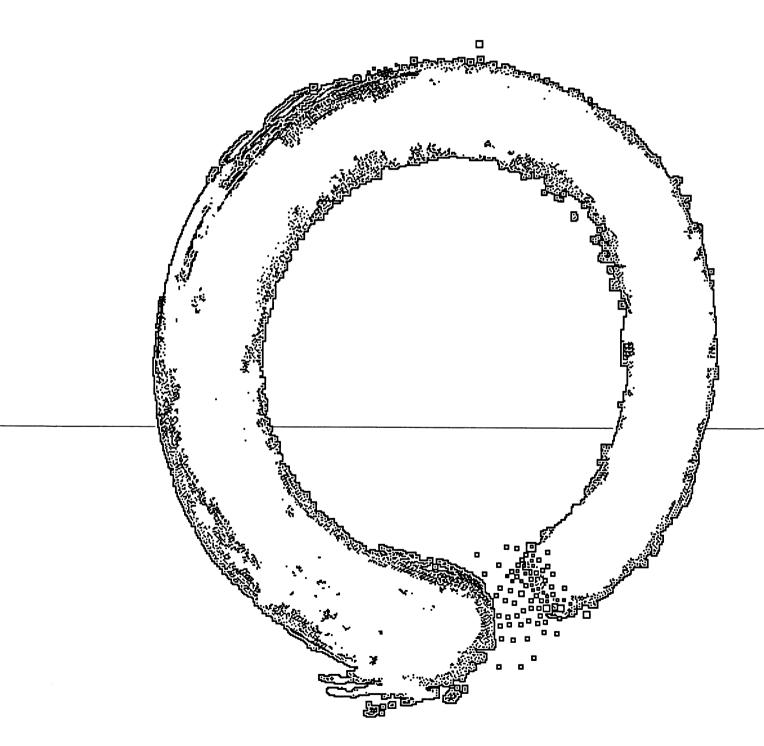
known as:

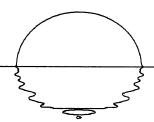
THE GROUND OF BEING



"You are independent, and I am independent; each exists in in a different moment. But this does not mean that we are quite different beings. We are actually one and the same being. We are the same, and yet different. It is very paradoxical, but actually it is so. Because we are independent beings, each one of us is a complete flashing into the vast phenomenal world. When I am sitting, there is no other person, but this does not mean I ignore you. I am completely one with every existence in the phenomenal world. So when I sit, you sit; everything sits with me. That is our zazen. When you sit, everything sits with you. And everything makes up the quality of your being. I am part of you. I go into the quality of your being. So in this practice we have absolute liberation from everything else. If you understand this secret there is no difference between Zen practice and your everyday life."

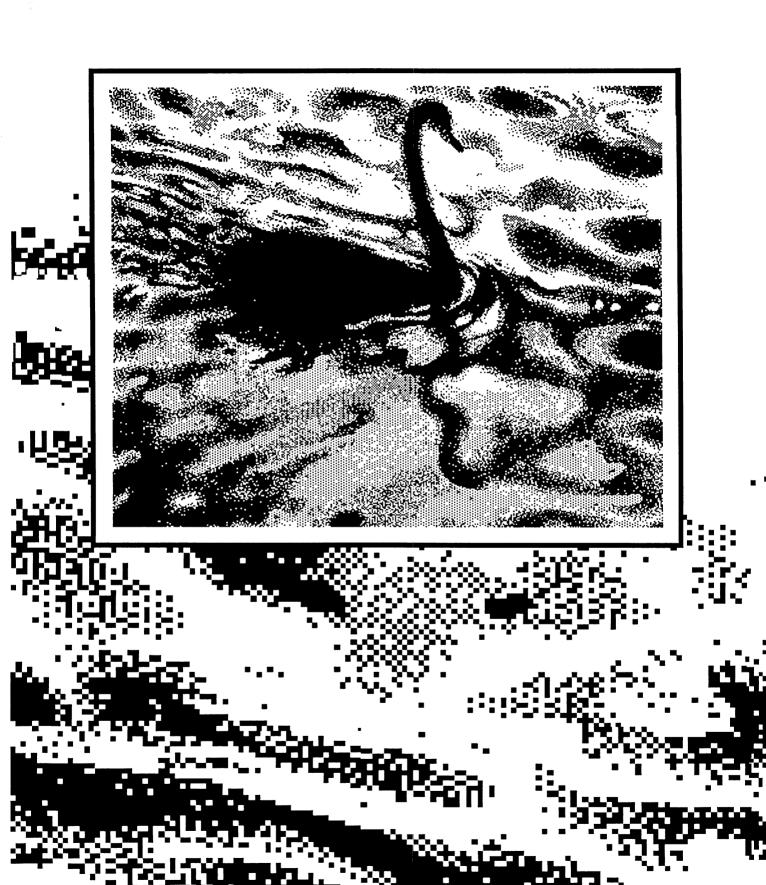
-Shunryu Suzuki Roshi Zen Mind, Beginner's Mind





We are the mirror as well as the face in it. we are tasting the taste this minute of eternity. We are the pain and what cures pain, both. We are the sweet, cold water and the jar that pours.

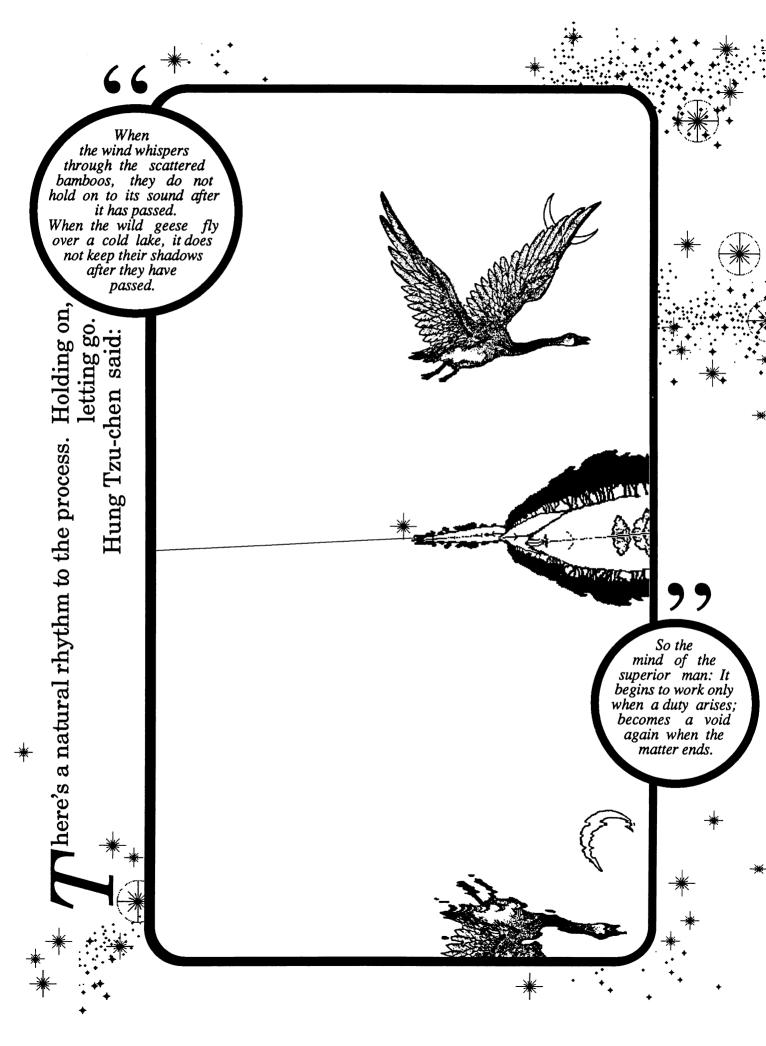
-Rumi, 13th century Sufi poet

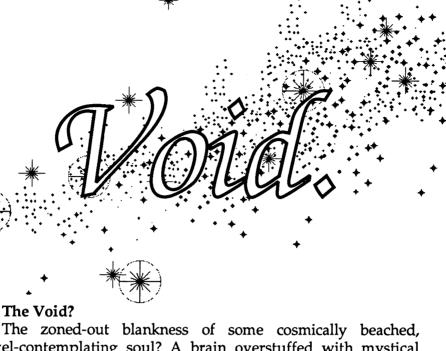


The key is a little detachment. Only when we loosen the knots of our fascination with surface glitter can we proceed further.

Into the deeper waters.







navel-contemplating soul? A brain overstuffed with mystical cotton?

No.

The void is a boundless plenitude at the center stage of human be-ing; an Open Space of the spirit that absolutely beggars imagination.

We may take old Hung Tzu-chen's void as meaning a simple tranquility, a desirelessness. But the word goes deeper than that. Indeed, it points into the very heart of our Quest.

The Void!

Lightfilled!

"What is it like?" said one master, "I feel like a fish released from a bowl into the vast ocean."

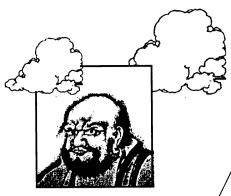
O yes! O yes! O yes!

Christian Mystics have called it "At play in the fields of the Lord."

O yes! O yes! O yes!

What is our current quasi-religious yearning for space travel, for the Silver Ships and the "...singing star-filled gulfs" of science fiction if not a primeval remembrance, a yearning for the freedom of this birthright, this original state? Indeed, when we contemplate the staggering vistas of outermost space, of millions beyond spinning millions of galaxies, we sense, if only fleetingly, the rapt vision of the mystical

Norlds without end...



Bodhidharma was the first patriarch of Zen. He traveled to China and was taken to the Emperor, a pious man who had built many temples and monasteries during his reign.

"What merit have I gained from all these actions?" asked the Emperor.

Bodhidharma said: "None."

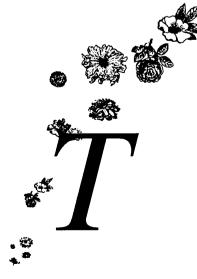
"What then is the first principle of holiness?" asked the bewildered Emperor.

Bodhidharma said:



A

S





The Emperor did not quite understand.

Bodhidharma went on his way.

But if we understand, if we catch the drift, if we want a piece of the action—what next?

Loosen your belt and get on with it! Reprogram. Better yet, deprogram.

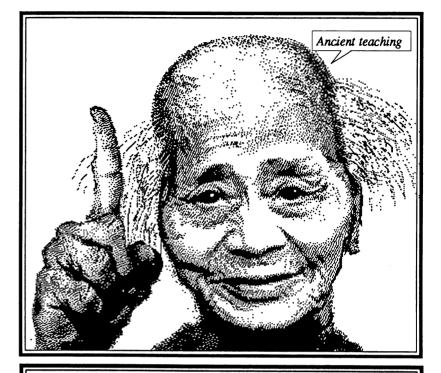
Meaning, exactly, what?

The basic Zen strategy is zazen. Sitting still, alert, attention to breath.

There is a subtle link between the movements of the mind and the breath. When we bring the focus of the mind to the breath, and the two start moving easily together, things simplify. Doors open, knots are untied. The hidden workings of the intellect, which create our notions of what we and the world are become clearer.

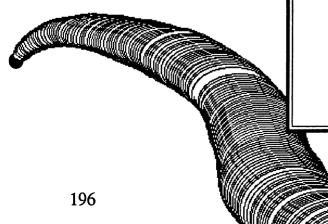
The work has begun..

Zazen is a foundation. An invaluable tool. But the essential matter is always a return to original, naked perception.



ne summer night at the shore, this chap, who is a paranoid type to begin with, OK, is walking home along a narrow path when yi! he almost steps barefoot smack on top of a large snake coiled in the sand. The poor guy almost has a coronary! He beats a quick retreat, and spends the night on a neighbor's couch.

"In the clear light of morning he returns and finds the snake is still there. Only—now get this—it's just a length of old rope lying across the path!"



### THE WHOLE EARTH

IS THE SNAKE

Likewise the whole earth is the rope. The whole earth is Form; the whole earth is Emptiness. Heaven or Hell. The Manifest or the Secret.

It all depends on how IT is approached. Empty or full.

In the clear light of our morning, we too shall be amazed: The way things
Are is so utterly dissimilar to the way things seem...

And the way things Are is so utterly similar to the way things seem.

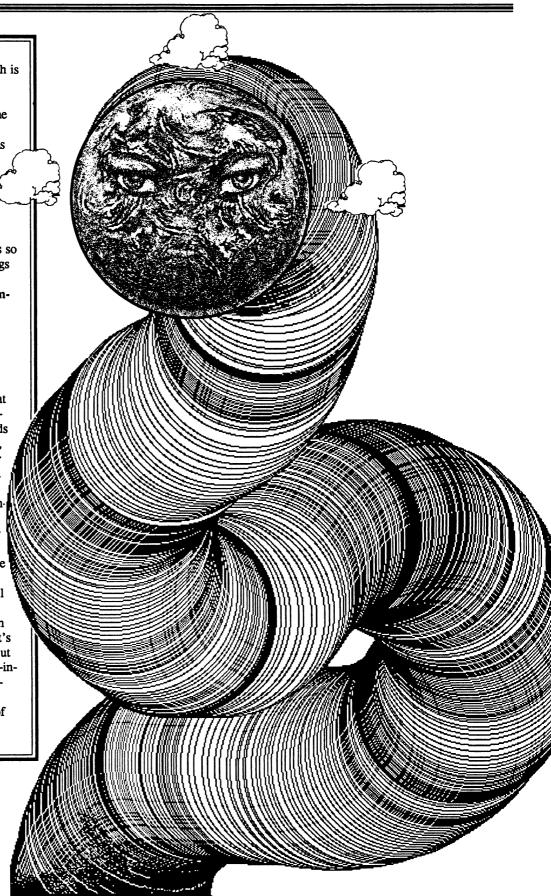
And the two ways are completely merged.

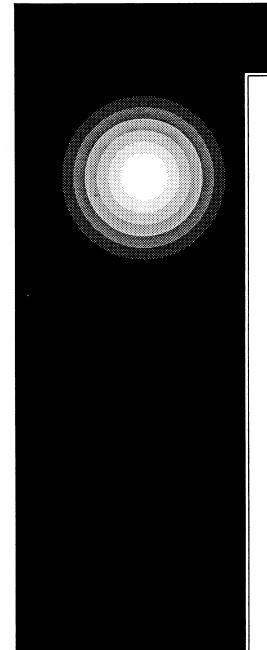
"Split the stick and I am there," the gnostic Jesus says. "Lift the stone and there am I."

Still we duck and dodge through life in an endless sweat over the same ol' snake-in-therope. Snake, the Deceiver, leads us by the nose, grips our heart, makes us tremble with fear (or desire), laugh, cry, hate, love...

Opinions and ideas and hopes and fears and other agendas created the snake-in-the-rope illusion. All together they constitute our program—the litany of reasons why we're "paranoid to begin with."

Ideas in general are useful tools; moving stuff around in our heads is usually easier than dragging it around out there. It's an essential part of survival. But we get caught up in our snake-in-the-rope notions of what's going on, and lose access to our ORIGINAL KNOWLEDGE of what's really going on.





Neither
right-brain
nor
left-brain
routines
can really help cut through the
"illusion of the snake."
Because:
they both
have a vested interest
in maintaining
the old cat-and-mouse,
perceiver-and-perceived
relationship with the world

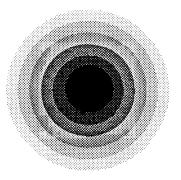
In plain English, their source code is corrupt.

that supports the illusion.

when the two modes
are harmonized,
the mind balanced,
we can explore the possibilities
of
gently sliding between them;
dropping
to a deeper faculty:
Fearless, compassionate,
unattatched,
transparent,
generous enough to let go of entire

Chuang Tzu had something to say on the subject:

reality systems in a single bound.





"Guided
By natural line,
By the secret
Opening,
The hidden space,
My cleaver finds
Its own way.
I cut through
No joint,
Chop no bone.

The Prince exclaimed,
"Your method is faultless!"
"Method?" said the cook
Laying aside his cleaver,
"What I follow is Tao
Beyond all methods!

"When I first began
To cut up oxen
I would see before me
The whole ox
All in one mass.
After three years
I no longer saw this mass.
I saw the distinctions.

"But now, I see nothing With the eye. My whole being Apprehends. My senses are idle. The spirit Free to work without plan Follows its own instinct.





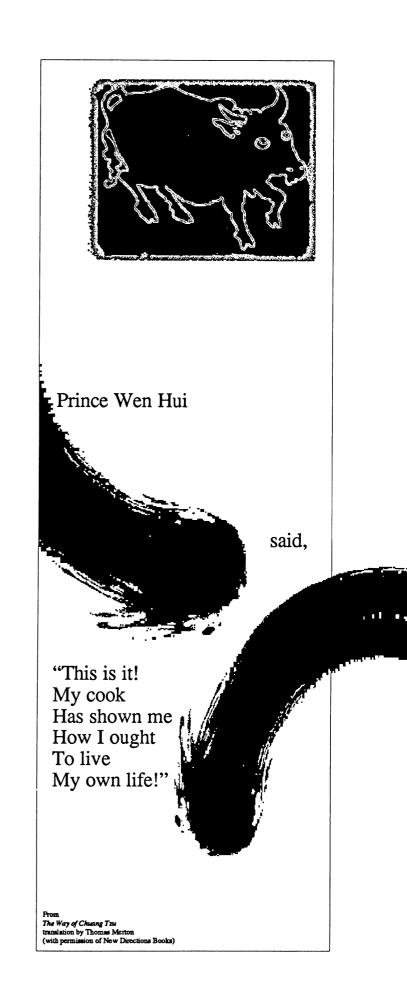
"A good cook, needs a new chopper Once a year—he cuts. A poor cook needs a new one Every month—he hacks!

"I have used this same cleaver Nineteen years. It has cut up A thousand oxen. Its edge is as keen As if newly sharpened.

"There are spaces in the joints:
The blade is thin and keen:
When this thinness
Finds that space
There is all the room you need!
It goes like a breeze!
Hence I have this cleaver
Nineteen years
As if newly sharpened!

"True, there are sometimes
Tough joints. I feel them coming,
I slow down, I watch closely,
Hold back, barely move the blade,
And whump! the part falls away
Landing like a clod of earth.

"Then I withdraw the blade, I stand still And let the joy of the work Sink in. I clean the blade And put it away."



nd is a computer showing me how to live my life? Hardly. Just forc-

ing the issues. First issue, Zen. Or mindfulness: keeping a clear focus should always-always-be Job One:

Therefore walk gingerly as a fox on thin ice

One without a second. "How wondrous this, how mysterious! I carry wood, I draw water."

Ho Koji, 8th century Chinese poet

around all fascinating experiences, ever vigilant of their power to slip us into the murky waters of obsession.

But Onward! Also welcome the duties of everyday life as essential passages. Performed carefully, correctly—getting into them, without...

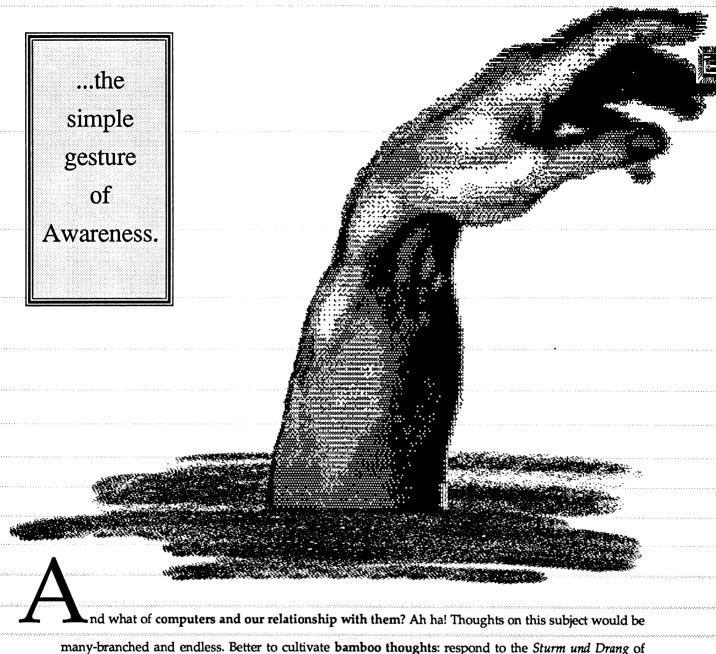


...them getting into us, they become a vehicle of awakening. This is called "Chopping wood and carrying water."



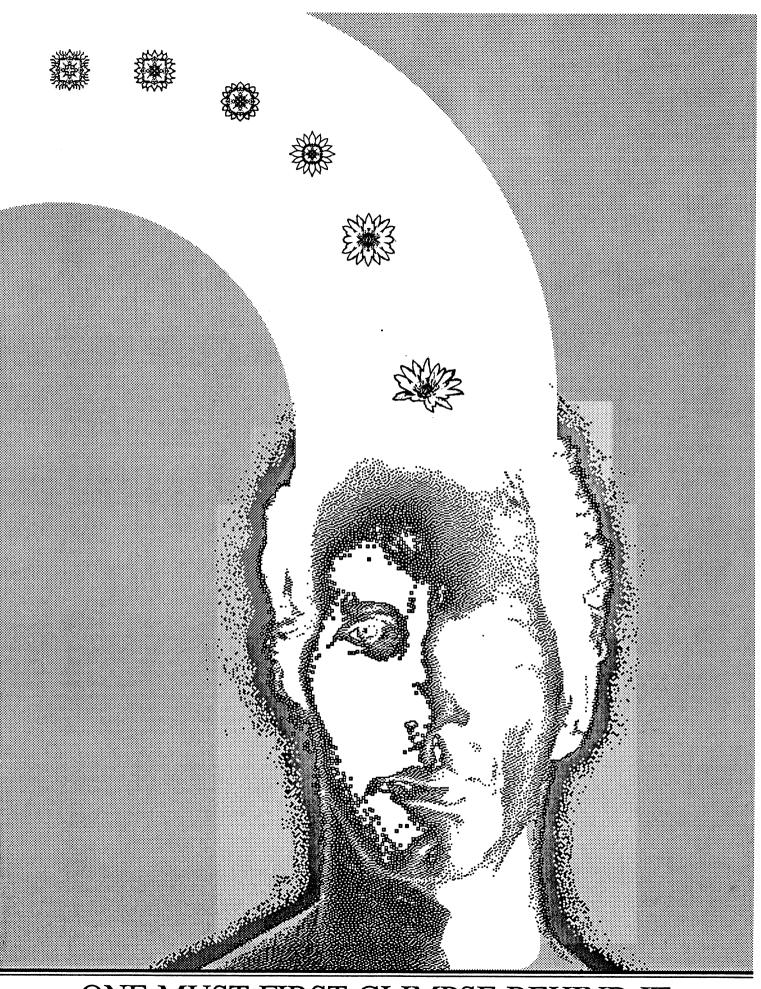
THE ART OF THE MACINTOSH. OK, what about Art? It follows that art shouldn't be any big deal. Certainly no more than peeling onions! Simply another task to do well.

When the gift of wake-fulness is sought and found, then the unique power of artistic vision will appear of its own accord, easily, anywhere, as...

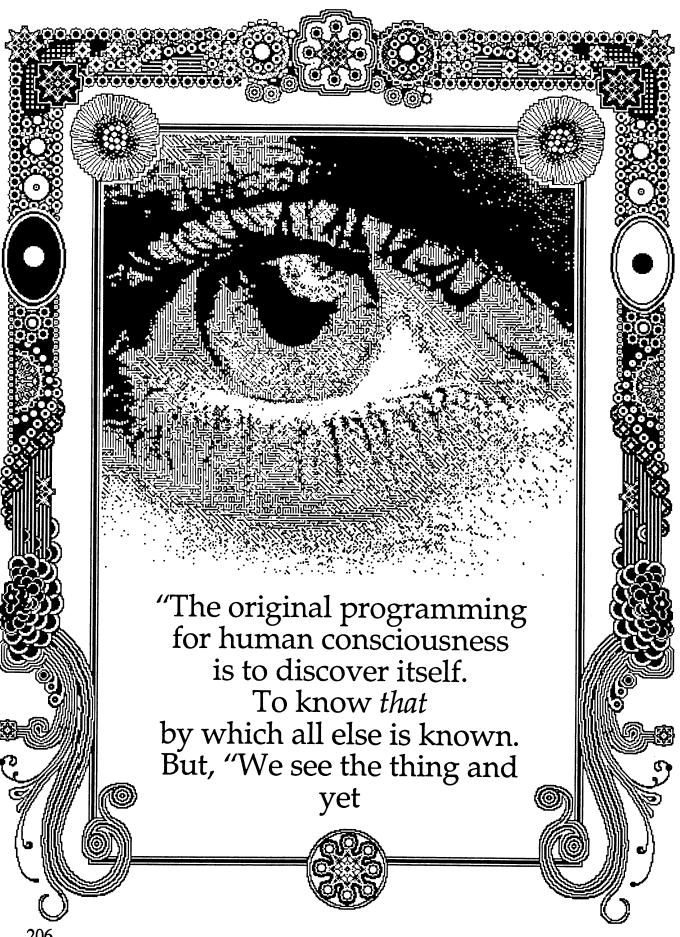


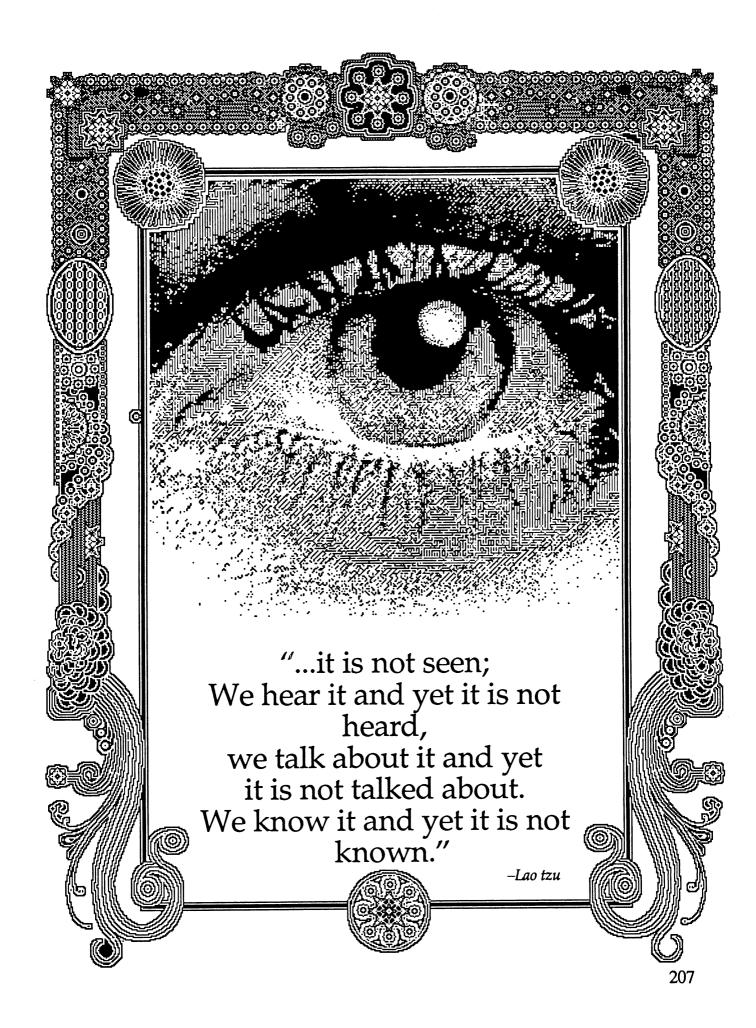
many-branched and endless. Better to cultivate bamboo thoughts: respond to the *Sturm und Drang* of the electronic environment like bamboo does under a load of snow. When speculation gets too heavy, bend. Swish. Gone! Real awareness is just not into freighting around a lot of opinions about experience. As one's center of gravity is shifted out of the drama, the scene and the props simplify. The Mac is just another useful tool. Helps me write, got great graphics, easy to use—the thing can actually produce an entire book. Troubles arise only when we start projecting inordinant hopes—or fears—into the thing. So relax. The problem lies not with the circuits, dear reader, but with ourselves. And sweet victory will only arise from within ourselves as well. Nowhere else.

But didn't we all know that to begin with? What then did this whole voyage amount to? Let us pray that it has thrown a little light on the mind; rendered it a bit more transparent. Because,



ONE MUST FIRST GLIMPSE BEHIND IT.









It can happen After years of practice Or in an instant— Gazing idly out a window, Standing in a meadow Awash with morning sun— THE ROCK SPLITS. Attention FALLS into perfect Realtime.

An ease of the breath,
A lift of heart's desire.
A piercing glimpse of joy
Beyond
The walls of the world.
In this instant you have
Reverted
Back to what you really are,
Returned
Home again...
Effortlessly!
Totally here, but also,
Blown away into emptiness:

GONE, GONE, GONE, GONE, BEYOND.

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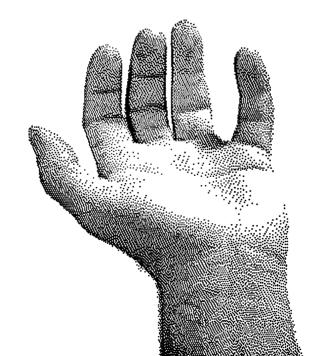
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# "I have lived reason, wanting on a door.

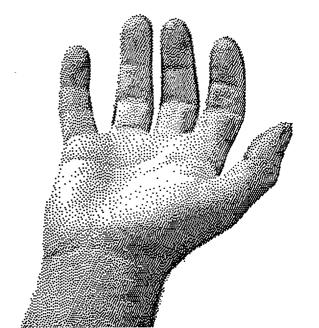
I've been knocking



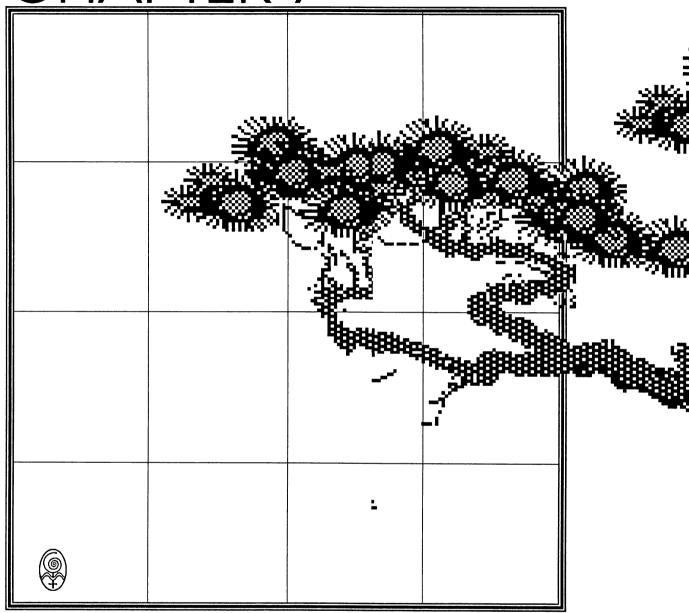
on the lip of answers, knocking It opens.

from the inside!"

-Rumi

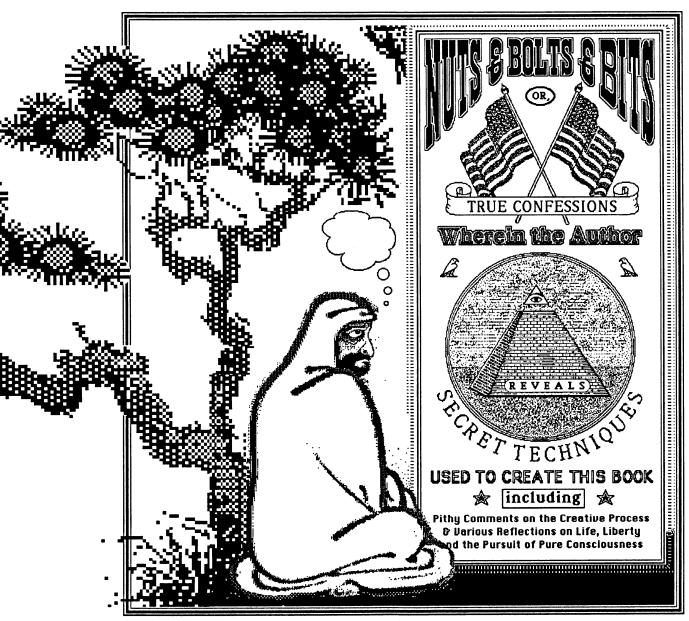


## CHAPTER 7



As this book nears completion, and I go over the preceding pages, it's clear that the Macintosh and its successors may well bring about a new kind of graphic standard. I see it evolving as I work, shaped and guided by the technology and software.

In fact, this computer isn't doing anything really new; there are professional graphic workstations around that do all this and more, in incredible resolution, in color, and all for only a few hundred thousand dollars. But while the higher echelons of the industry look with indifference at the resolution on the Mac, and even the Laserwriter, the fact is, they're all over the place now. New and interesting things have a way of surfacing when good tools are put in the hands of a lot of curious people.



Bringing his mind down from the plane of the infinite, the venerable sage beholds an unsettling vision...

When the ability to create, find, and modify an unlimited amount of images combines with a personal control over typesetting and page design, there's a powerful temptation to sail off in relaxed and innovative ways. And while there is an obvious danger of excess, with a little restraint the results can communicate difficult and abstract ideas with ease and elegance. Feelings too.

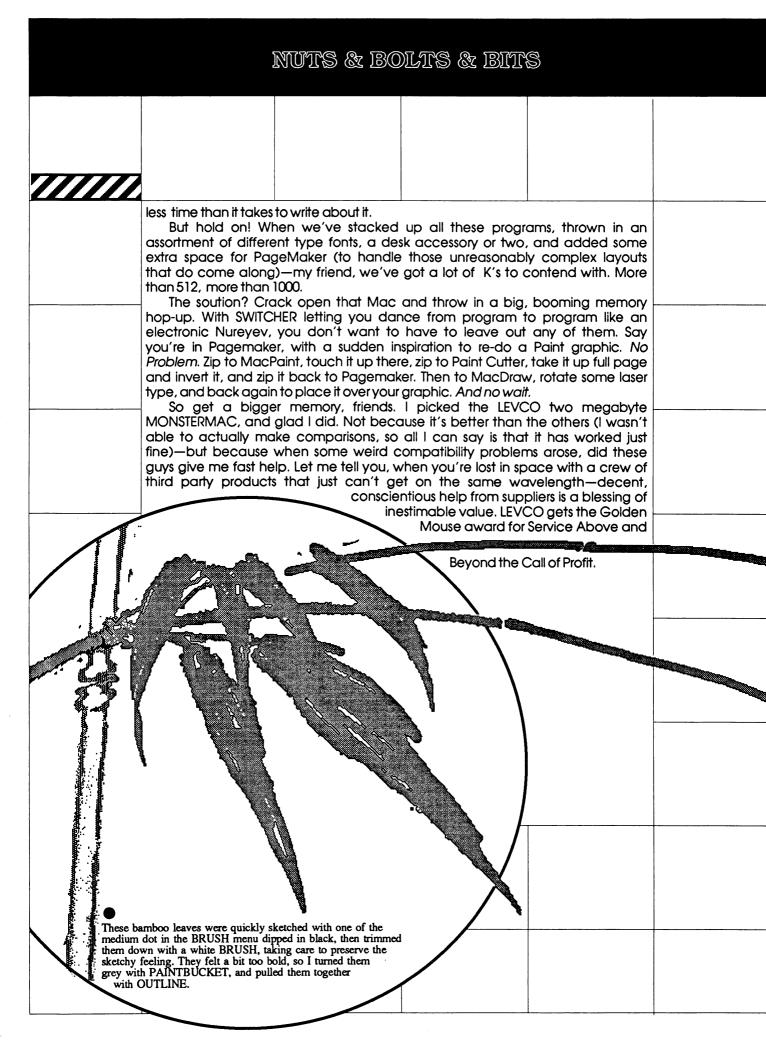
This is not the terrain of slick illustration, but of simple, iconic imagery. Each page is like a poster; a train of thought unfolds slowly in easy stages. Communication is paced in a different rhythm. Clearer hopefully, and certainly more fun.

There are a few tricks I learned along the way.

#### NUTS & BOLTS & BITS spreads out before you. Basically there are two options. (1) THUNDERSCAN, which gives the best resolution, but, since it fits into the Imagewriter printer, only reads pictures that can be fed through its rollers, or (2) a video digitizer that gets its images through your trusty home video camera. I'll take the second: I think the freedom and flexibility of gazing around with a camera is integral to the what-you-see-is-what-you-get credo of electronic publishing, and worth the slight trade-off in resolution. Besides, many of the pictures I digitize are from reference books—and I'm still literate enough not to approve of yanking pages out of books. Among digitizers, I tried two. The first, burdened with the rather wifty acronym MAGIC, was no slouch, but demanded that I fiddle around a lot to get an admittedly wide variety of effects. Ultimately, I opted for the simplicity of Koala's MACVISION, not to mention the fact that in basic snapshot mode I prefer its dot pattern. A BOX If you're paying close attention, you will have realized by now that we have now exceeded the number of ports on the back of the Mac. The simple solution is the so-called A—B Box which lets you hang two items out of one port. Let me tell you who makes a great one: the MacNiffy people somewhere out in the Midwest. So, you may wonder, why is it a great box? Actually, I suppose one switch box is just like the rest. Theirs was a little cheaper, true, but I just wanted to give them a plug—a bunch of guys with a growing stable of interesting MacProducts who represent the best in humane interactive capitalism. They give lifetime guarantees, and they have have an 800 hotline service number. Apple, et al., take note. SOFTWARE PAGEMAKER Everything comes together in PageMaker. Not only the page design program for the Mac, Pagemaker is a benchmark of the programmer's art. Sell your Jacuzzi and get one. Two cheaper competitors are hustling to match its features for a lot less, but so far for the serious digital page designer, nothing touches it. Yet. One of its supreme features: it can shrink your bit-mapped pictures so that when the Laserwriter prints them, they come out like elegant rapidograph drawings, or grainy photographs. MACPAINT o eration Already in the realm of the immortals. But you also need... PageMaker screen dump. 217

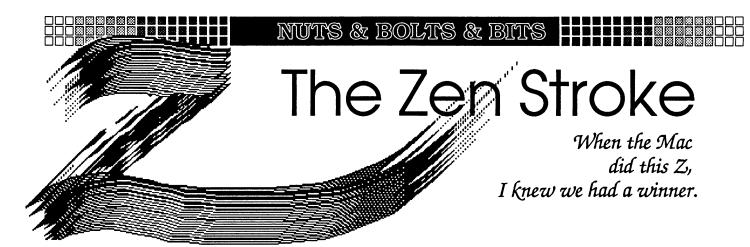
#### NUTS & BOLTS & BITS PAINT CUTTER For those times when you have to manipulate graphics larger than the Paint window, and CLICK ART EFFECTS The obvious extension of MacPaint's legendary bag of tricks. Rotate, skew and distort. If you're getting a new Mac, and have to buy a paint program, then **FULLPAINT** Is for you. It combines almost all of the features that the three above programs can do, plus a few extra tricks of its own. MACWRITE With Pagemaker doing the fancy formatting, who needs more? **MACDRAFT** MacDraft is just MacDraw with a bunch of extra goodies—a zoom, a rotate, scaling, and more. Both of these are drafting programs for jobs that require a high degree of precision. EASY 3-D Probably not in the necessity class; I got this three-dimensional modeler late in the game. A pure delight. Sure does some neat things, I wish I had thought of more uses for it. Their manual, by the way, is a model of clarity and logical thought, and wins the coveted Golden Mouse Hot Documentation Award. AND WAITING IN THE WINGS ... Are extra fonts and Clip Art. Both are really a personal choice. In bit-mapped fonts, I like the classic collection of Click Art Letters, and the wide selection of *Fluent Fonts*. As for laser fonts, you buy them one at a time, so follow your tastes. I used a number of clip-art packages in this book, and they are noted on the page credits at the end of this chapter. I wasn't really impressed by any of them until I found the MacMemories Series of ImageWorld. The artistic level is way over anything else I've seen, and I found their imagery constantly inspired unexpected connections with my text. Rotating vase by EASY 3-D. I had planned to end chapter 6 with a page of intense Escher-like three-dimensional graphics illustrating the Buddha's essentially indescribable "turning around." I put it aside at the last moment in favor of a simpler, less technical approach.

## NUTS & BOLTS & BITS Now, for the Order out of Chaos housekeeping chores. Life would have been a lot easier if I had begun using these two items at the start of this book: Picture BASE by Symmetry is a neat way to review miniatures of all your Paint files instead of trying to figure out what your cryptic little titles refer to. And MDC II by New Canaan MicroCode, which no-fuss-no-muss labels and catalogues all those back-up disks rattling around in your desk. SWITCHER AND MEMORY As the theory goes, there is in pure Platonic form, an ideal graphic workstation-in-the-sky, of which all earthly systems are mere imperfect replicas. Be that as it may, as you work on the real-world setup you've put together, you become increasingly aware of exactly how it falls short of some ideal. (Which, considering the plummeting cost of chips, shouldn't be that far away.) For openers, the Ideal Graphic Workstation will do everything (just like a pencil) instantly. Hey, isn't that's what computer graphics are all about? ...Zip zip? Anything less is a dull pencil, a compromise, and a drag. So, enter SWITCHER, a tight little jewel of code that opens up your Mac to as many as eight programs at once, and lets you-zip-jump from one to another in 219



#### NUTS & BOLTS & BITS OFFICIAL DISCLAIMER LEN AND THE ART OF THE MACINTOSH started out with the intention of being a basic tretise on creative MacPaint techniques. But that was long ago, and there are any number of excellent books out already that cover the bases. I'm assuming now that you know your way around, and would rather range around the book, getting ideas and figuring out for yourself how did he do that? Still, it might be appreciated if we walk through some of the trickier moves and oft-used licks that made our life easier. But first, a disclaimer. "Zen" has been volleyed about for some time in the West with a nonchalance that would make old Bodhidharma grit his teeth. Therefore, let's clear up the difference between Zen and the aesthetics that grew out of it. The aesthetics of Zen are its costume, so to speak, its stage props, and a popular—graspable—approach to a profoundly slippery subject. course of writing & imaging this book, I perceived that certain elements of Zen aesthetics were useful guidlines for the twientieth century discipline of computer graphics, both as an encouragement to its strengths, and antedote to its pitfalls. However I don't want to further the trivialization of the Wayless Way into artistic formulas. Indeed, as the book winds along, we finally swim into deeper waters. Alas, as anyone steeped in Zen will immediately realize, our course often strays beyond the confines of its formal doctrines. That's OK. I'd like to think this book follows the Zen Fringe Rascal tradition. The eminent practitioners of this calling were two Zen buddies of ancient China, Han-shan and Shi-ti. Han-shan was something of a vagabond and hung out in the hills, on Cold Mountain, roaming around writing poems on tree trunks. Shi-ti, on the other hand, was an enlightened cook in the local monastery down in the valley. Every now and then, Han-shan whould show up unexpectedly, dash through the meditation hall-laughing wildly-and disappear. Yo Han-shan! That's fringe Zen! Outside the sutras. Whatever works. Just to be safe though, let me issue this public disclaimer absolving Zen—official Zen—of any responsibility for this book. Zen itself is clearly a mystery, and no less so because its smiling masters would deny even that, and declare it is as plain as the nose on your face. Whatever the truth of the matter, I make no claim to be a spokesman for its Great and Hoary Traditions. Is this book Zen or not? Maybe it doesn't matter. My interest is in presenting what I have found to be true, rather than hewing to any predetermined beliefs, digital or metaphysical; to pass on some hard-won info on computers, opening some doors, and once again, raising the Good Question.

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Master. He wished to send a monk to open a new monastery. He called his pupils and told them whoever best answered a question would be appointed.

He put a water pitcher on the ground and asked, "Who can say what this is without calling its name?"

His senior disciple came forward and said, "No one would call it a shoe!" Isan the cook suddenly jumped up, kicked over the vase, and went out. Hyakujo smiled and said, "Chief monk loses." Isan became the master of the new monastery.

bscure as these Zen tales sound, the idea behind them is simple, if elusive. When the Roshi puts a question to the disciple, the only correct "answer" is one that springs from a student who has touched bright center, tasted his original Inseparability with the universe; this awakening will reveal itself in responses as innocent of fore-thought as a child's laugh or a flock of

pigeons erupting into flight from a sidewalk. (This **In the moment** quality is called **Suchness.**) Zen finds its purest artistic expression in the deliberate/spontaneous gesture that flashes suddenly across all contrived wanderings of the intellect into a realm of utter simplicity. Yo! Nobody home!

started off the above Zen excercize in graphic suchness with one of the special brushes (the diagonal line of dots). For this kind of dashing calligraphy to be successful you can't hesitate or betray any constipation in your movement. The trick is to keep a finger of your left hand on the tilde (~) key, upper left corner, which is a shortcut UNDO, so you can keep knocking off trial versions (and just as quickly undoing them as you try and get just the right controlled abandon in the stroke). With this kind of instant forgiveness, anybody can sooner or later come up with a gem. After a dozen or more tries I stroked off a respectable Z. To loosen up the look some more, I lassoed the Z, copied it and dropped a few clones on top to produce the final multiple image.

Check out how the shadow under the underline is slightly rotated to heighten the 3-D

did the big Z with the mouse, \*Chapter Two" on a graphic tablet. It's a good example of the kind of thing that would be just about impossible to do with a mouse. Unfortunately, by the time I got my hands on a tablet, I was so patterned to mouse-work that it was just as handy to use the mouse for most operations. One operation that the tablet excelled in was tracing, which was how I did the trendy David on 125 and the samurai on 175. If I didn't have to give back my review unit, I probably would have eventually shifted my whole operation to a tablet. If you know how to draw or do calligraphy, the feel of a pen is important. The tablet I liked best was the GTCO board which had some nifty features. Think twice about tablets which use a port (you need it) or software (may be incompatible with your hard disk). Check out any models with wireless pens—pulling that wire around when you draw is a drag.



The Wizard really was my first picture and I picked at it a whole day just learning the ropes, so there are no great revelations of technique other than something known to most high school cartoonists. If you pick a grotesque subject it is hard to go wrong. Notice the white streaks in the wizard's hair, a nice touch easily done with the fine point of the brush dipped in white.

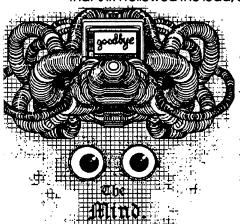
favorite. You've probably seen some version of this design before. It's called an **Enso**, the "circle of infinite possibilities," emptiness within fullness, profundity within simplicity... A traditional favorite of Zen calligraphers, it is often accompanied by a short poem, such as

The shadow of the bamboo sweeps The stair all night long. Yet not a mote of dust is stirred.

-Chikan

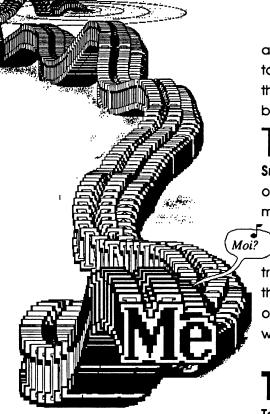
The idea for a Mac version of this design came soon after seeing how holding down OPTION and COMMAND keys, while dragging an image, would "echo repeat" it. I wanted to have the word ZEN dense and almost unreadable at the beginning of the circle and open up at the end, so I had to increase the speed of my movement as I went around. After quite a few tries the best I could do was a circle with a nice flair at the end but a muddled beginning, and no amount of dickering

around with the letters made it read "right." So I changed lanes: why not **exploit** the muddled beginning? I shot a little SPRAY PAINT over it, and lo! it started to look like a real brush stroke. That's it! I followed the lead, enlarged the result to full page, and the rest is Zen history.



his OPTION+COMMAND echo-repeat is a neat, often intoxicating feature. It must closely parallel some inner workings of the mind—it's great fun to just sit around endlessly doing it. The real trick is finding an appropriate use for the effect. Here, I lassoed a circle and dragged it around to make a delicious Tube Snarl. Then I added some smaller loops for texture. Note here how the little tube goes both over and behind the rest. First, it was drawn separately. Putting it over was easy: any time you create a detail

#### NUTS & BOLTS & BITS



and drag it over to the main picture, it will slide on top. If you want it to go **under**, just lasso a section of the main picture and pull it over the detail. Then bring **both** back to rejoin the mothership.

I he logical evolution of the tube bit was the 3-D Snake. I (1) OUTLINED a 'Me.' (2) Starting at the top of the page, I dragged it forward with an undulating motion with the LASSO on echo repeat, making the first, smallest tail segment. Stopped, released the mouse button, pulled the original 'Me' to a neutral corner and (3) enlarged it a tad. Returned it to the end of the segment and (4) echoed out another, larger segment. (5) Repeated until the illusion was complete...

he **Left-brain** 

Tower was a more precise rendition of this trick. I started with a BRUSH MIRRORS

mandala as a base (OUTLINED a few times to create an intense micro-circuit look), and kept pulling out the center and duplicating (one story at a time now) with the MARQUEE, enlarging as I went along. Then ditto with the center of the center, etc., keeping plumb all the time along a forty-five degree guideline.

through picture. The idea gleaned from executing the little scene here is really just the first lesson in any basic life-drawing class. They take away your pencil and give you

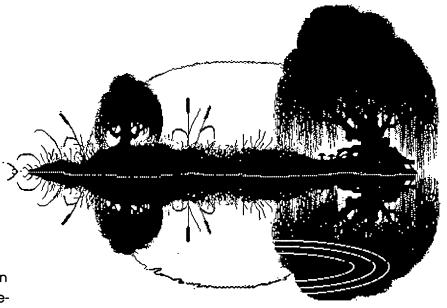
a big stick of charcoal, forcing you to draw masses of light and shadow. Model your subject as a solid in space (holistic) rather than outlining it as a symbol (conceptual). The SPRAY PAINT is your charcoal, and it might well be the most intuitive way to draw on the Mac. But there's one big difference—in MacPaint you can switch back and forth between laying down form with black SPRAY PAINT and trimming it off with the white. Once you get the rhythm, it's a suprisingly accurate way of bringing a picture into focus—from the first vague idea to the final rendering—and it short-circuits the tendency to produce spidery, two-dimensional sketches. I did the full page Indian face on page 66 with SPRAY PAINT.



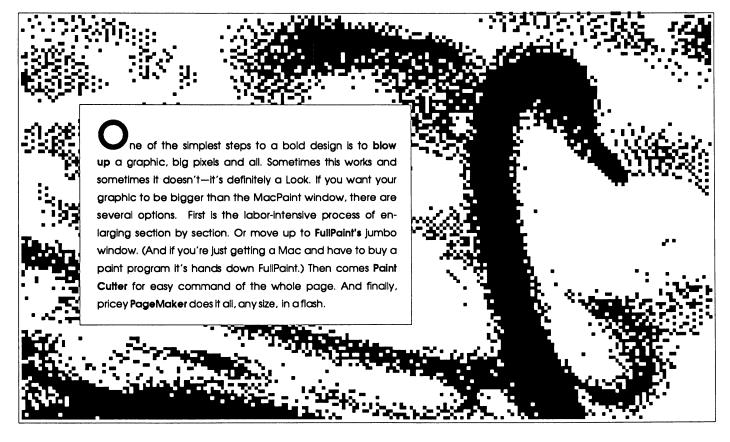
Also, by the time I did this picture, I had gotten accurate enough to start using the one pixel brush for detail instead of always reaching for FATBITS. It's faster, almost as accurate, and a whole lot looser.

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Reflections on Reflections. Since FLIP VERTICAL has made graphic reflections a national craze, allow me to bring your attention to this reflection in the lake. Observe how it is **not** a simple flopped image of the trees above. It's been scrunched down a bit (foreshortened is the term). This is an oft-overlooked detail in the reflection business: when you are looking eye to eye at a tree above water level, you're seeing the other tree below water level at an altogether different angle, with subsequent adjustments for foreshortening.



est suits in Macintosh art because good bold images get along swell with the Dot Matrix effect, and avoid that spidery feel that is so easy to get into with PENCIL. Pick a big black dot from brush menu and scrub around to make a rough, bold form. Then, like Michelangelo "liberating the statue from the stone," just trim away the fat until you begin to see what you want. Then back to black...white...black....white. Bold black graphics also illustrate an important criterion of good design: does your page, seen from across the room, or upside down, still seem interesting? Are there contrasts, blocks of light and dark, etc...or does it all just grey-out?



**B**ut there is yet another way of blowing up.

The Turbo Zoom! I discovered this trick in an early MacWorld magazine, and it wins the Golden Mouse award for the neatest MacPaint stunt to date. Now pay attention... We are going to enlarge a picture without getting huge pixels. First, enlarge it to the size desired with method of choice. Then INVERT, Now, select the FILLED REC-TANGLE in the menu, click NO BORDER, choose the shade right next to black from the palette. OK? Now holding down the COMMAND key, pull the pattern accross the whole screen. It will fill all the white space with the pattern. And you will double click on the marquee box and INVERT again. Now you see your original design writ large, but in a fashionable light grey, a mere ghost of itself. Lasso it, and holding OPTION key, pull off a clone, move it a few pixels away, drop it, repeat until you've built the contrast back up to where it was. I bet this is a toned-down version of those "computer enhanced" pictures you see of the outer planets or DNA molecules. I used it several places throughout the book, most noticeably on this goddess' face. Only here, I expanded full page in Paint Cutter, went arey in Paint, then layered the result in PageMaker.

There is...

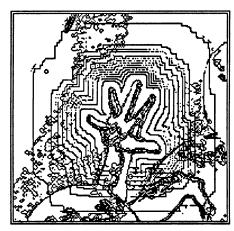
So there's an instant when an idea comes alive? Well, sort of. The early versions of this page—and there were about a dozen—were a lot more baroque (a polite word for overdone), using all kinds of multiple outlining and such. One can really get into outlining, but I finally boiled it down to what you see. I started with the finished heron, which I copied from a book. And

then going down, degrading
the image more and more
by shrinking it down, clicking
to freeze it, and then blowing it
up to the original size again. The
more you shrink it down,
the cruder the image becomes, and that crudeness
is retained when it is blown up
again. Moving upwards,
as should be obvious,
I simply stretched the bird out
more and more, and poured

in the grey patterns

den and the Art of the Rubik's Cube, or, "How do I get There from Here?" You know, visualizing the final version of your idea, then figuring out the exact chain of actions that will execute it. Most of the advanced graphic work you can do with this system gets you involved with subroutines all chained together just so. Example: I want this

hand with a series of outlines around it. But the outlining process will do weird things to the hand as well as to the picture itself. So it's (1) COPY the hand to a clear workspace. (2) ERASE away all background. (3) LASSO the hand and COPY to memory. (4) OUTLINE away. (5) ERASE all weird effects now created inside of hand. (6) PASTE original hand back into the empty hand outline. (7) ERASE—with a bucket of white paint—some of the extra lines around the hand. (8) Remove one-pixel "leak" holes from the outlines so that when the whole effect is pasted back on the picture it doesn't blot out the



whole background. (9) LASSO,

copy, AND PASTE back on top of original.

wn one ERended nature of the Mac

Uronic observation: The openended nature of the Mac easily leads to unbridled flights of "creativity" which can often disperse into the ozone. The check and balance of the mundane is needed too. Quoth the I Ching, "Unlimited possibilities are not suited for man, else his life will dissolve in the boundless." A friend who had gotten a Mac after seeing mine complained, "I really had fun on it for a while. But then, one day, I to play...and trying couldn't play." True. Not only can the blank canvas/screen be intimidating, but sometimes omnipotence can be uninspiring. I bet he needed a real world project to get him Grounded and off and rolling. Even children in their most absurd and joyful activities generally start out with a defined game.

o make the dark-to-light gradation pattern on page 186-187, enlarge a strip of checker-board pattern (created in Paint) then trim down the black squares smaller and smaller into one pixel dots. That's half of the job. FLIPPING VER-TICAL and INVERTING automates the other half. Then just keep COPYING what you have done aross the page till you have what you want.

While on the things bigger

subject of making and smaller...

# BITMAPPED FONT GETS SMOOTH WHEN SHRUNK, OF COURSE

TRY CREATING A BLOCK OF type in Paint with a bit-mapped geometric display font, slanting it an elegant forty-five degrees in EFFECTS-and reducing in PageMaker. Or, do up a block of type in MacDraft (then rotate, if desired), then SAVE AS in PICT format. You now have a type document that goes into PageMaker—and can be stretched to any size and proportion (pages 6,7) with full Laser quality all the way.

"Men invent alarm clocks to wake themselves up. Then they fall asleep...dreaming of alarm clocks."

-Gurdjieff

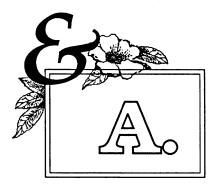
#### NUTS & BOLTS & BITS

ow take this ox. I started off digitizing this fellow, then enlarged him in Paintcutter, stretching his proportions out a bit while I was at it. Sent him back to Paint where his outline got cleaned up. Printed a proof; he didn't have the punch I wanted. Filled him with black. Divided him into sections like a prime-cut diagram. Still not happening. But it reminded me of a woodcut.

to do it? Simple. Aimed camera at my pine-planked studio floor in the failing light of late afternoon and caught a nice section of grain. Back to ox, and INVERT. Now he's a white ox on a black background. Back to wood, lasso a section of grain & carry it back & drop it onto ox. Oops...UNDO, back to the wood, INVERT it, lasso & carry piece back to ox, PASTE down over white spaces of ox (excess grain disappears into black background, yes?) Work over whole ox until he's all grain (actually reverse grain), then, Ta da, INVERT the whole kit and

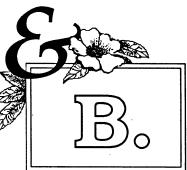
kaboodle, and there is the ox woodcut, everything right-

Dut it's in the Bless'd realm of PageMaker where creative design really needs this kind of reasoning process. PageMaker is engineered to keep each graphic element in it isolated in its own plane. This can get complicated: some elements (such as any bit-mapped art from Paint, or anything in PICT format) are transparent, like a film overlay. Whatever's beneath these will show through. On the other hand, any graphic element generated by PageMaker will totally cover what's behind it, as will any picture brought in from the scrapbook. Not only that, if you want to work on something, it has to be on top... but any given element can be BROUGHT TO FRONT (top level) or SENT TO BACK (bottom). It takes a little forethought and arranging, but ultimately almost anything can be done. For instance, on the cover, the little flower (from Paint) hangs over the double-line border of a box generated by



side out.

Pagemaker. It should look like (A). But it doesn't. It looks like (B) because **five tiny white ovals** (generated by PageMaker, thus opaque) were crucially placed as masks on top of the lines and beneath the flower neatly preventing the lines (also the "&" symbol) from showing through. Check out page 181 for a tour-de-force example of the art of masking.



#### Layering, cont.

This deceptively simple effect of the dragon breaking through a border must easily have a dozen layers. I would hate to have to rethink it all over again.  $^{\odot}$ It is not really made of stripes, but from three groups of roundcornered rectangles stacked dark to light, with the open center area actually a block of white. The stripes were tapered and pointed bv nesting little round-cornered rectangles off center. This exercise with stripes illustrates an interesting aspect of our new artform: it took me the better part of an afternoon's Macking around to figure out exactly what I wanted to do & the most elegant way to do it—then only fifteen minutes to actually execute the final design. As I was putting it together with all its little sub-routines, I got a strong hunch that what I was doing had probably more than a passing kinship with certain aspects of programming, complete with logic-loops, linking, reverse engineering, and other arcana.

#### The Great Discovery

The great discovery is always as near as our next breath, easy as opening a door and stepping through. Yet common experience is manifestly otherwise. The reason it seems remote & impossibly difficult is that we keep trying to push the door open. It's not locked, it just swings the other way. In.



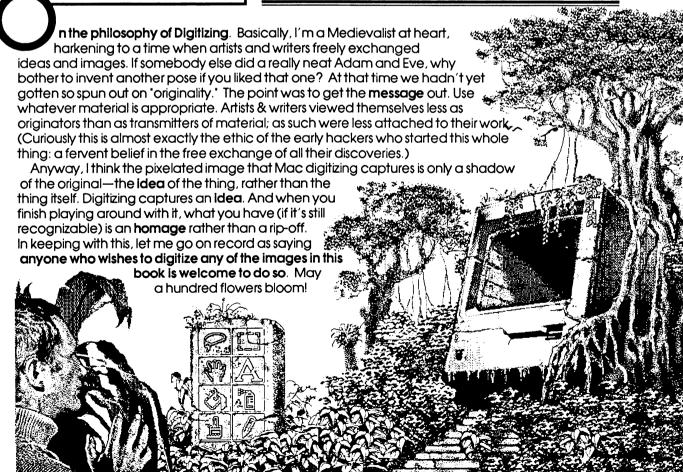
MacErosion. Take a graphic that you're working on, anything, as long as it's a good solid. Make it 50% grey with a kiss from the PAINTBUCKET. (This was a logo made from ClickArt's large Boston letterforms.) POUR black into all the white space around it, then white into the black, and so on. Each successive pour will nibble away a one-pixel thick outer layer of the grey shape—sometimes creating neat effects, sometimes not...but always, if you persist, leaving you in the end with nothing at all.



### Digitizing, more on..

I first digitized a painting of a Zen sage, then the classic Macintosh drawing, and fitted them together. With this innocent act, I opened up the prickly issue of digital retouching and journalistic integrity: did such a drawing ever exist? And are you implying an *endorsement* of the Mac by the sage? —And so forth. Forget it. For us, it's just plain fun. Now observe the jungle vista below. No, In truth I have never peered through undergrowth at an ancient digital temple. What I did do is digitize myself and a potted palm, digitized my Mac from a low and dramatic angle, pulled the menu bar from a MacPaint screen dump, sketched a fig tree from an old National Geographic article on Angkor Wat, cloned a few hundred leaves, then mixed and served. Simple!

The gentleman is Bodhidharma, the man who brought the Teachings from India to China and became the First Patriarch of Zen. (The point of his remark in the book, by the way, is that one of the most famous koans, or paradox-questions of Zen is "Why did Bodhidharma come to the East?" ) An interesting character, he is always depicted as embodying the fierce, rugged, uncompromising qualities of enlightenment.



## EFX.

Click Art EFFECTS is an obvious addition to the MacPaint vocabulary, and instantly becomes part of the way you electro-graphically think. Since it's part of the FULLPAINT repertoire as well, there's no reason for everyone



Monsieur Descartes here was the first victim of this new, bent outlook. It was so much fun to do that it took a degree of self-control not to distort every subsequent picture that came along. René was snatched out of an old encyclopedia with the trusty digitizer, skewed, and touched up with FATBITS.

I think therefore I am.

Descartes.

Break the wineglass, fall toward the glassblower's breath.

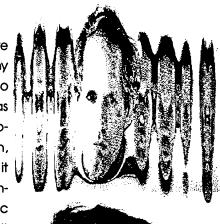
Rumi

This would be a good opportunity to elaborate a little more on just how computers digest the teeming confusion of a world of blurred boundaries (like a face) and render it into crisp little O's and 1's (like a digitized picture). It all goes back to The Frenchman and the Fly.

The Frenchman was a 17th century dropout: René Descartes. He had decided that the entire knowledge system of his era was not worth his time: he was interested in generating knowledge as opposed to accepting time-honored authority. As legend has it, while pondering the great imponderables one morning, our hero's gaze strayed up to a fly crawling across the ceiling. Not the sort to take things lightly, he wonders, "Now just exactly where is that fly?"

### $\mathbf{V}_{\mathsf{ideo}\,\mathsf{distortion}}$

portraits two were done by simply moving my head in front of the video camera while MacVision was scanning me. First, in the opposite direction of the scan, then along with it, turning it slightly as I did. I had the camera sitting on top of the Mac so I could monitor the result right as it was happening. Took a few tries to get it right. There's a whole lot of interesting distortion effects waiting to be catalogued: vertical movements, jiggling, changing exposure, and so on.





Type distortion: Print out a block of large type, then distort by digitizing it with the camera aimed at an odd angle, or by bending the print-out in a bulge. Interesting possibilities here.

And—Zut alors— modern science is launched!

Why? Because up until then, a fly was just, you know, there. But René saw in a flash that if an imaginary grid was superimposed on the ceiling, the fly would be precisely so many inches from one wall, and precisely so many inches from the other.

You're not impressed? How perfectly obvious. But it's only because this idea of a "Cartesian grid" is so central to the "scientific process" and so totally integrated into our twentieth century mental operating system/world view, that it has become like the ocean to the fish—invisible.

After this basic conceptual breakthrough, the rest was just a mopping-up operation. Armed with his new X-axis / Y-axis, Descartes quickly perceived how mathematical functions, which had hitherto been bewilderingly abstract, and all kinds of real-world activities like cannon ball trajectories, could be reduced to connected points on a grid.

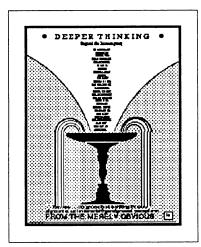
The seamless confusion of the world was transformed into points you could **count on your fingers**. Or, as we say in Latin, on your **digits**. Get it? Digital means: "anything you can count on your fingers."

The grid was a magic spell that could turn **things into numbers**. Very neat.

Maybe too neat. Because, these predictable leftbrain conceptual models are so comforting that we now confuse them (like television) with the real thing.

Obviously I couldn't resist the chance to warp M. Descartes a bit out of his accustomed appearance.

## **NEW POSSIBILITIES**



Simply trust!

Do not the petals flutter down,

Just like that?

-Anonymous Haiku

FOR MOST OF THIS BOOK I HAD UNCONSCIOUSLY confined my use of PageMaker's various graphic elements to the given boundaries of its page outline.

Then, a simple observation: why keep to these limits?

Drawing right off the page out onto the desktop suddenly put a new vocabulary of great sweeping curves and huge segments of circles at my disposal. What overlapped the page would be printed, the rest would remain unseen.

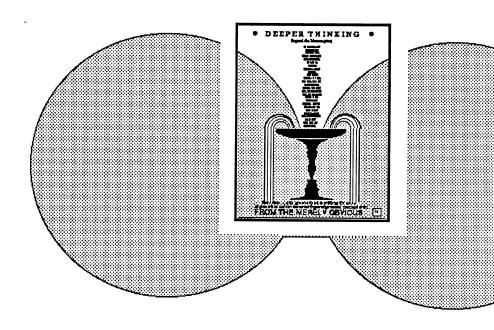
A hundred more possibilities wait to be found out in PageMaker, and in the other programs too. Or dreamed up: new graphic design applications are being written right now that will make these ones obsolete.

And new computers are on their way too, to push back the borders even more. What's Next?

The *new direction* is always unexpected, always obvious after the fact.

May we move fearlessly into the new territories; expand...into the invisible.





All that is visible must grow beyond itself into the realm of the invisible.

-the I Ching

has been a long journey to finish this book, and without many helpful hands along the way it would never have come together as you now see it. Some grateful recognition:

> ...To Apple's Peerless Publishing Evangelists: John Duhring, who first recognized the potential of Zen, whose enthusiasm and ready assistance never faltered; and Martha Steffen who picked up where he left off.

> ...To all the software creators who sent me review copies of their wares, but who received no mention in these pages. I am all too aware that many of you guys are start-up visionaries, deeply in hock and need all the marketplace exposure you can get. Review copies cost money; I feel a bit like I've cheated you. There were some terrific, imaginative programs deserving of mention. But the reality of my marketplace steered this book away from the technical and into the literary. Zen would have sunk beneath a load of reviews. I kept it light. Sorry, that's just how it happened.

> ...To Coleman Barks, for his generous, very medieval permission to draw freely and loosely from his wonderful translation of Rumi, Open Secret.

> ...To editor Howard Rheingold who just happened to know about both computers and consciousness. And to Buzz Ferver for bearing with me an extra year.

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CREDITS. If not listed below, all illustrations and graphics were PROBABLY created by your author's own hand from scratch. Likewise I did not deem it neccessary to credit fonts resident in the Laserwriter, except when they have been used in a special way.

P. 3. Font: Courier, in the Laserwriter, Stork: ImageWorld's MacMemories. P. 4. Flower: MacMemories. P., 6, 7. "Gone": Times, in the Laserwriter. P. 8. Vertical font: New Haven, by ClickArt; Danabers girl, by Susan Kare, courters of Apple. MacVision. P. 12. Apple: MacVision. P. 13. Portrait: MacVision; "Neatl": Calgary, by ClickArt. P. 14, 15. Font: New Haven, by ClickArt. P. 22. Balloon: ClickArt. P. 33. Images: MAGIC. P. 24. Font: Basel, by ClickArt. P. 36. Cartoons: ClickArt Publications; Font: Dalas, by ClickArt. P. 37. Cartoons: ClickArt Publications; Font: Dalas, by ClickArt. P. 39. Images: MAGIC. P. 42. Bodhicharma & Mac: MAGIC. P. 44. Explorer: MacVision; Leaves: MAGIC, Steele: MacPaint screen dump. P. 45. MacTemple: MAGIC. P. 47. Portrait MacVision, P. 51. Calligraphy: GTOC graphics yad. P. 53. Font: Baylon, by Mac the Knife fonts. P. 54. Font: Zeta Bold, by Kensington; Car: MAGIC. P. 55. Font: Houston, by ClickArt, Hand: MacVision, P. 56, 57. Font: Basel, by ClickArt; P. 65. Mr. Natural: MAGIC (with apologies to R. Crumb, Who in the good nature spirit of the times, never copyrighted is works.) Flowers: MacMemories. P. 66. Faces: MacVision; Font: Theta, by Kensington. P. 66, 67. Graphics: MAGIC, P. 70. Font: ETA Medium, by Kensington plus ClickArt. P. 71. Louis: MacVision, with a nod to Be Here Now and another Age. P. 59. Graphics: Mac 3-D & MacDraft. P. 61. Mountain: MacVision; Font: Houston, by ClickArt. P. 76. Cherub: MAGIC, P. 71. TechnoPriest MacVision, by Mac Ken Knife. P. 70. Font: ETA Medium, by Kensington plus ClickArt and MacVision; Font: Houston, by ClickArt. P. 76. Cherub: MAGIC, P. 79. Intalla letter: ClickArt Publications. P. 81. Graphics: MAGIC; Flower, Axlon's Card Shoppe. P. 82. Descartes: MAGIC, Pont: Babylon, by Mac Ken Knife. P. 1

Finally, as we close down shop, let us leave on the highest note:

Let yourself be silently drawn by the stronger pull of what you really love.

is a light abounding in full gladness, like coming upon a light in thick darkness, like receiving a treasure in poverty. So easy, so free are you, that the weight of the world and the aggravations of the mind are burdens no longer; your existence is delivered from all limitations. You have become open, light and transparent. You gain an illuminating insight into the deepest nature of things, which appear to you as so many gossamer patterns having no graspable reality.

Here is the original face of your being.

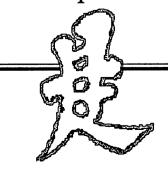
Here is the most beautiful landscape of your birthplace.

This is the straight passage, open and unobstructed.

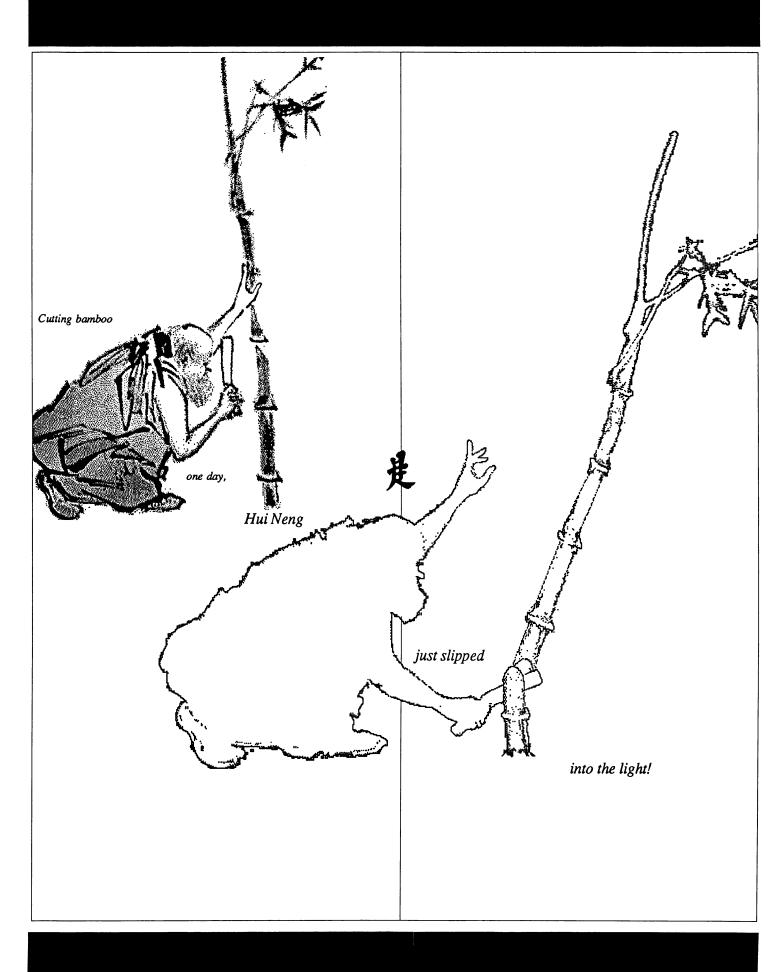
This is when you surrender all.

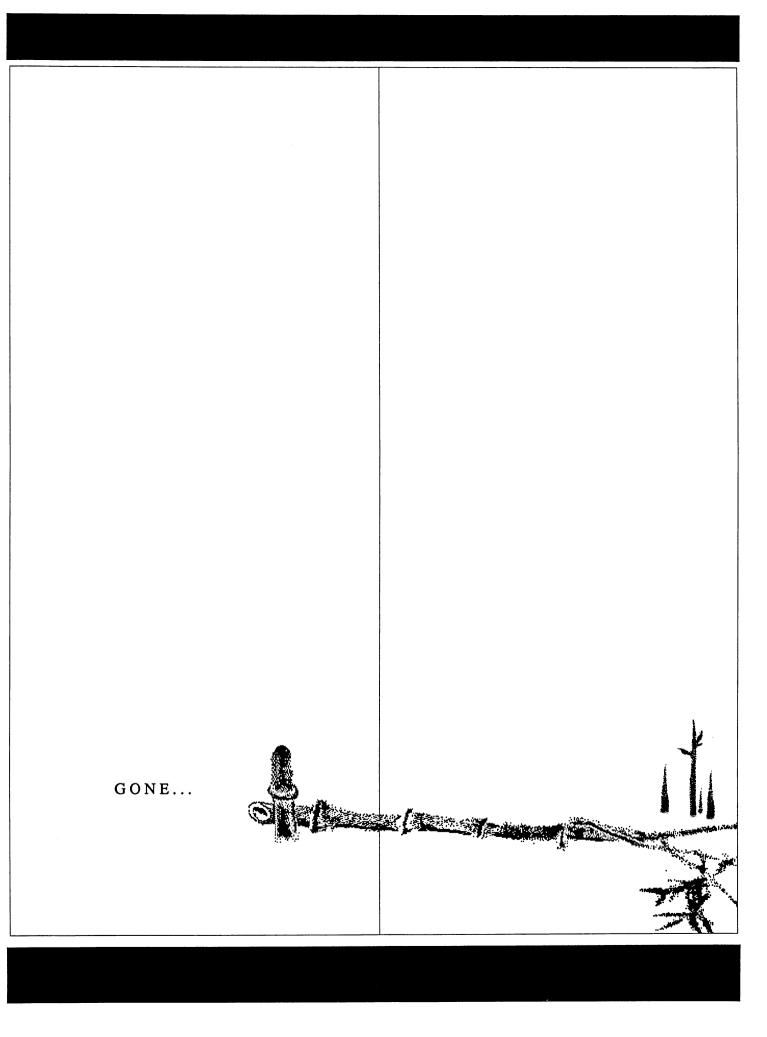
This is where you gain peace, ease, non-doing and inexpressible delight. All sutras and scriptures are not more than communications of this fact. All the sages, ancient and modern, have exhausted their ingenuity and imaginations to no other purpose than to point the way to THIS.

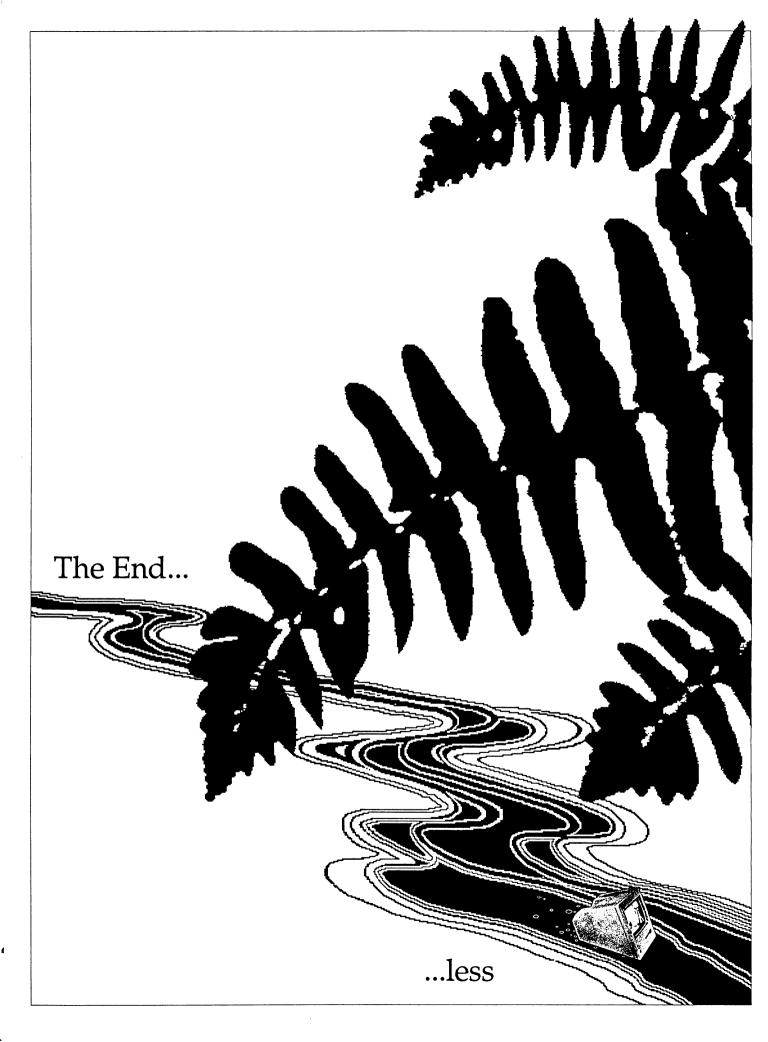
Zen master Shih Shuan



These words I'm saying begin to lose meaning; Existence, emptiness, peace, surrender; Words and what they try to say swept out the window, down the slant of the roof.







## Take Take The Journey

"Zen & the Art of the Macintosh
realizes what we all thought
was possible when the Mac
first came out. More than
that, it's a journey with an important
destination. This book is for everyone,

not just the Mac Partisan." Jeffery Young, founding editor, MacWorld

"Fantastic Illustrations." Steward Brand, creator, Whole Earth Catalogue

"The breakthrough book of the Macintosh Age. The new medium has finally found its Leonardo!"

Howard Rheingold,

author, Tools for Thought

"Michael Green takes command of the Macintosh as surely as a Zen painter handles a brush. The result is a revelatory approach to computing." Steven Levy, author, Hackers